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THE SIGNIFICANCE OF CARDIAC EXTRASYSTOLES IN CHILDHOOD*

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Of the various arrhythmias encountered in the heart beat during childhood, that known as extrasystole is probably the least well understood. We find articles dealing with heart block, fibrillation, paroxysmal tachycardia and sinus arrhythmia, but there is very little in the literature dealing with the subject of extrasystole. In adults this particular form of irregularity is not uncommon; in fact, when one sees the table of age incidence of extrasystole given by Cowan and Ritchie,[1] one realizes that the condition is least common in childhood, comparatively rare below the age of 40, and not at all infrequent following that. Out of a total of 226 cases of extrasystole, only seven were present in individuals between the ages of 10 and 20, and none below the age of 10. This seeming rarity of the condition in childhood is only apparent, for if we deal with statistics concerning children only, we find that, though uncommon, this form of irregularity is not so exceedingly rare. Consequently, one must discount the statistics in books dealing with heart disease in general. For example, Thomas Lewis [2] says: "In my own series the age limits between which premature contractions have been observed are 4 to 91. During the first decade they are extremely rare." And then in a footnote he adds, "The solitary instance, a child of 4 years included in the table, was especially brought to my notice by Dr. Clive Riviere, who discovered it while examining school children."

Southerland [3] calls attention to the fact that extrasystoles are not so very rare. He says: "It has come to be recognized that extrasystoles may occur at all ages. In the first decade of life, extrasystole, though common enough as an occasional occurrence, is not often present as a definite form of pulse irregularity; in the second they are more frequently met with."

Since clinically this form of cardiac irregularity is very striking, it seemed worth while to observe and record its occurrence in a number of patients and to try to follow these up in order to evaluate the real significance of this cardiac irregularity.

Extrasystole is a premature and abnormal contraction starting at some abnormal site in the heart. The auricles or the ventricles alone may be involved. Extrasystoles are therefore spoken of as auricular, ventricular or nodal, depending on the sites of their origin. The extra beat, coming as it does before the heart muscle has had time to recover completely, is usually smaller and weaker than the regular beats. Moreover, it is followed by a compensatory pause. As a result of this, the irregularity is easily diagnosed by palpation both of the pulse and of the apex beat. In the course of regular heart beats, one suddenly feels a weak, small pulsation followed by an abnormally long pause, after which normal rhythm returns.

Besides this anatomic classification of extrasystoles based on their sites of origin, one may also divide them according to their causes. The following classification will, I think, prove helpful clinically: There are three main types of extrasystole, toxic, nervous and idiopathic. 1. The toxic includes (*a*) infectious toxins due to various acute illnesses, such as rheumatism, tonsillitis and diphtheria, and (*b*) drug toxins, such as digitalis and the salicylates. The toxic variety, as we shall see, usually persists only a short time. 2. The nervous or emotional variety includes the cases in which premature beats follow a great mental shock or emotion. 3. The idiopathic, or those of unknown origin, include cases in which the irregularity starts apparently without any discoverable cause and continues over a period of years. Children may acquire this type of irregularity without having had any acute illness whatever; the irregularity may be looked on as a peculiarity of cardiac rhythm.

In the ensuing discussion, illustrative cases will be presented in the order of the foregoing classification.

Occasional extrasystoles are most commonly due to toxic causes. Foremost among these is the poison of rheumatic fever. It is not at all uncommon to note the occurrence of extra beats during the course of an acute exacerbation in a child suffering from chronic valvular disease. In the cases of this kind which I have seen, the extra beats did not always seem to have special significance, but in some cases appeared to be an evidence of a new infection of the heart muscle itself. The child is not aware of the irregularity. The extrasystole may persist for a few days and then permanently disappear. Quite recently I saw a child suffering from an old valvular lesion, in whom an added pericarditis was accompanied by extrasystoles. In this connection the following case is of interest:

CASE 1.—E. C., a boy, aged 7, previously well except for numerous attacks of cervical adenitis, was taken suddenly ill with high fever and a pharyngitis. Two days later he had developed consolidation of the anterior portion of the lower lobe of the right lung. The pneumonia was complicated by a severe multiple arthritis involving chiefly the joints of the upper extremity and the spine. After a period of about a week the temperature fell to normal, the joint symptoms subsided and the pneumonia gradually disappeared. During this entire period the heart action was rapid, but the heart showed no other abnormality. About six days after the temperature

* Read before the Pediatric Section of the New York Academy of Medicine, Nov. 12, 1925.

1. Cowan and Ritchie: Diseases of the Heart, 1922, p. 89.
2. Lewis, Thomas: Clinical Disorders of the Heart Beat, 1912.
3. Southerland: The Heart in Early Life.

had reached normal, mild choreiform motions of the extremities became manifest and at the same time extrasystoles appeared in the heart. About every tenth beat was extrasystolic. This condition of the heart lasted about a week; the joints remained free and the chorea gradually disappeared. The boy was kept in bed several weeks longer and then appeared perfectly well. At this time an electrocardiogram, taken by Dr. M. A. Rothschild, showed no distinct abnormality. There was a marked sinus arrhythmia present. In the third lead there was a marked respiratory variation in the height of the ventricular complexes. This was simply due to a shift of position of the apex in the various phases of respiration. Clinically, except for an increased irritability, there were no objective evidences of disease. Fluoroscopically, there was some evidence of right heart enlargement.

One year later the patient was in excellent condition and had had no return of any cardiac or rheumatic disability.

On account of the joint manifestations followed by typical chorea, this case must be looked on as one of acute rheumatic infection, and the extrasystoles were in all probability due to an acute inflammatory invasion of the heart muscle.

Coombs [4] discusses this question of the significance of premature beats in the course of rheumatic infection and comes to some fairly definite conclusions. He points out that the irregularity occurs much less often in young subjects than in old, and believes that this is due to the greater frequency of vascular disease in the latter. In rheumatic patients under 16 years of age, less than 1 per cent showed this form of arrhythmia.

Even when premature beats are associated with active rheumatic carditis, the arrhythmia does not furnish any clue to the distribution or severity of the attack. Coombs mentions a girl of 11, with rheumatic carditis, ventricular dilatation and hypertrophy and mitral incompetence, in whom premature auricular contractions persisted almost continually for about eighteen months, "but the bouts of active infection which marked this period had no effect on the arrhythmia, which eventually disappeared without any particular reason for doing so."

Closely related to this condition is the heart irregularity following acute sore throat. A case in point follows:

CASE 2.—A. C., a boy, aged 5, who had had a complete tonsillectomy performed at the age of 4 on account of frequent sore throats, was taken suddenly ill with fever and an acute follicular pharyngitis. The lymph follicles in the posterior wall of the pharynx were acutely inflamed, and many of them were tipped with a white exudate. Although the child had been previously protected against diphtheria by toxin-antitoxin injections, a throat culture for diphtheria was taken, which proved negative. A few days after the onset of this illness, cardiac extrasystoles appeared and persisted for several weeks without any other cardiac symptoms. At no time was there a murmur. No medication was given, and under complete rest treatment the irregularity disappeared, and the child completely recovered. This illness occurred several years ago, and the child is still under observation, and at no time have any cardiac symptoms recurred.

During the influenza epidemic, cases were reported in which the beat was seriously affected by this disease. An extreme case of this kind was the following:

CASE 3.—R. J., a boy, aged 8, was taken suddenly ill with fever and prostration. That evening he complained of great weakness and cardiac palpitation and suddenly seemed to faint. When seen he was pale, clammy, very weak and prostrated, with an extreme degree of cardiac irregularity. So irregular was the pulse that at first the diagnosis seemed to be a fibrillation. However, in the course of the next few days it became evident that the irregularity was due to many extrasystoles. These disappeared in the course of a few weeks and never returned, the boy making a perfect recovery. Three years later he developed severe laryngeal diphtheria requiring intravenous administration of antitoxin. For several months after this he showed tachycardia; curiously enough, however, though there certainly was myocardial involvement, no extrasystoles were ever observed.

As regards the significance of premature beats in the course of diphtheria, opinions vary. In a series of 120 cases in which examination was made by polygraph, Gunson [5] found premature auricular contractions occurring singly and infrequently in 28 per cent of the children. They constituted the sole irregularity in the mild and moderately severe cases. He found no cases of ventricular extrasystoles in this series.

Marvin,[6] who recently reported a large series of cases of diphtheria carefully studied by means of the electrocardiograph, found extrasystoles to occur only rarely. He says: "Auricular premature beats were detected in only two patients, children aged 5 and 6 years, in whom the diphtheria was mild, and who showed no symptoms of circulatory failure at any time; their recovery was prompt and uneventful. . . . The only abnormalities in the electrocardiograms which seemed to be of significance were disturbances in auriculoventricular or intraventricular conduction."

Smith [7] divides irregularities into the initial tachycardias, which included 72 per cent of the cases studied, and convalescent pulse irregularities including the other 28 per cent. Of the latter, 65 per cent showed sinus arrhythmia, 20 per cent premature contractions and 15 per cent heart block.

He says, "Premature contractions furnished 20 per cent of the irregularities of convalescence, those of auricular origin occurring five times as often as ventricular beats. There is nothing in these studies to indicate that premature contractions herald the approach of graver cardiac involvement." To quote him further: "In diphtheria, auricular premature contractions were found to reverse the usual clinical finding by occurring five times oftener than ventricular premature contractions. One might seek to explain this predominance on the grounds that the acute infection is more likely to cause irritable foci in the lightly constructed auricular musculature, rather than in the thicker, more vascular and, hence, resistant ventricular muscle. Premature contractions of ventricular origin are clinically the more frequent, probably for the reason that they are often associated with structural changes in the heart muscle of the middle aged or elderly persons who are seen in hospitals or private practice. Auricular contractions, on the other hand, are more the manifestation of mildly acute toxic effect on the heart tissue which has not yet undergone actual alteration in structure."

Smith likewise mentions that multiple premature auricular contractions may occur in diphtheria and produce a most disquieting irregularity, but that they may entirely disappear without imposing "a heritage of muscle weakness on the child." I have seen a child in whom extrasystoles persisted for several months after diphtheria and then disappeared, leaving the heart

4. Coombs, Carey: Rheumatic Heart Disease, New York, William Wood & Co., 1924.

5. Gunson: Brit. J. Dis. Child., September, 1914, p. 385.

6. Marvin, H. M.: Effect of Diphtheria on Cardiovascular System; Heart in Faucial Diphtheria, Am. J. Dis. Child. **29**: 433 (April) 1925.

7. Smith, S. C.: The Heart in Diphtheria, J. A. M. A. **77**: 765 (Sept. 3) 1921.

apparently normal. Smith also refers to a child in whom premature contractions acquired during diphtheria did not disappear until five months after the illness.

Apparently then, though not uncommon, extrasystoles are not of serious import in diphtheria.

The cases described above are all examples of the toxins of various acute illnesses giving rise to extrasystolic contractions. However, other forms of toxins also may cause them. In children, as in adults, excessive use of digitalis may result in their appearance. In one boy who has been under my observation for the last ten years, the taking of acetylsalicylic acid causes extrasystoles to appear, and other forms of salicylates are reported to bring on this irregularity occasionally.

It has been shown experimentally that, though with difficulty, it is possible to produce extrasystoles by stimulation of the cardiac nerves, both sympathetic and vagal. It is therefore of interest that clinically extrasystoles are seen as the result of emotional disturbances such as fear, anxiety, joy or fright.

Case 4, which follows, is probably of this nature.

CASE 4.—R., a boy, aged 4 years, who had been under my care for three years, during which time his heart was normal, met with a severe accident, being run over by an automobile. When next I saw him, two months after the injury, he showed extrasystoles every five or six beats. He had had a mild attack of tonsillitis a few weeks previously. The heart irregularity lasted several months and then permanently disappeared. The boy remained high strung and nervous as a result of the accident. Though the intercurrent sore throat could not be absolutely excluded as a cause of the cardiac condition, it was so mild that the emotional shock seemed a much more likely causative factor. This boy has since passed through severe pneumonia and a serious attack of scarlet fever, during neither of which he showed any cardiac disturbance.

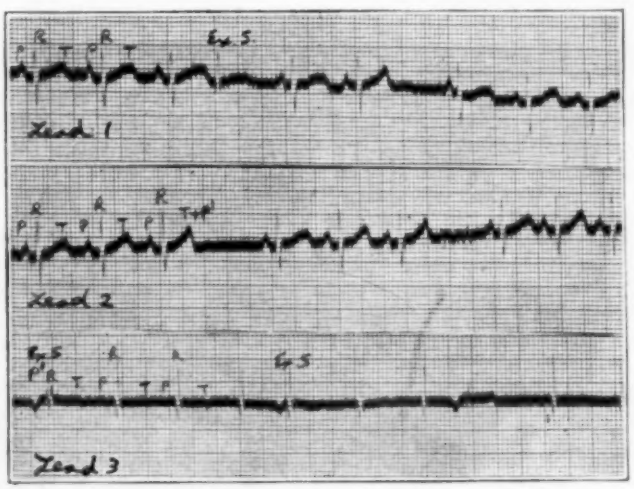

Fig. 1 (case 5).—Record of extrasystoles of auricular origin of at least two different types, made in February, 1922.

It will be seen that in all these cases the heart irregularity was transitory. There is, however, another group of cases in which the irregularity seems to be permanent—at least, it remains unchanged for years at a time. These cases are, I believe, unusual enough to be reported in detail.

CASE 5.—M. G., a girl, has been under my observation since birth in February, 1919. Her general condition has always been excellent, her weight normal. On account of difficult breathing and loud snoring at night, her very large tonsils and adenoids were removed when she was 2 years old. In January, 1922, when she was 3, extrasystoles were first noted in a routine examination. They occurred about every fifth beat. Physical examination of the heart failed to show any other abnormality; there were no murmurs. The apex beat was felt in the fourth space in the nipple line, and the right border of the heart was percussed at the right sternal border. The urine was normal. As the cardiac irregularity persisted and was present on every subsequent examination, an electrocardiogram was made by Dr. B. S. Oppenheimer, who reported extrasystoles of auricular origin (fig. 1). A teleroentgenogram showed the transverse diameter of the heart to be 8.1 cm.; there appeared to be widening across the region of the great vessels.

Though the extrasystoles have varied in the frequency of their occurrence, they have been constantly present. At one examination an extra beat was noted only once in every twenty-six beats, while at another time an extrasystole appeared at every second or third beat. In May, 1925, the child's height was 44⅝ inches (113.3 cm.), the average for her age being 43⅜ inches (110.7 cm.), and her weight was 42 pounds (19 Kg.), the average for her age being 43½ pounds (19.7 Kg.). The urine continues normal.

CASE 6.—R. G., a girl, aged 4½, seen by me at Mount Sinai Hospital Pediatric Dispensary, Nov. 12, 1923, was a first child, breast fed for nine months. In the early part of 1923, she was very ill with measles. In September, she had a very violent gastric attack which required gastric lavage. A week before appearing at the dispensary, she had been seen by a pediatrician who had noted cardiac irregularity and referred her to the clinic. When seen by me her general condition was excellent; her height was 40 inches (101.6 cm.), normal height being 39 inches (98.5 cm.); her weight was 33½ pounds (15 Kg.), normal weight being 36 pounds (16 Kg.). She was bright and alert, and her color was good. The tonsils and adenoids had been completely removed. The liver was felt two fingers below the free border of the ribs; the spleen was not felt. The lungs were normal. The heart and the pulse showed an extrasystolic beat about every four beats. There was no cardiac enlargement, and no murmurs were heard. The urine was normal. Electrocardiographic examination made, Nov. 14, 1923, by Dr. Irving Roth revealed isolated premature beats. The P waves accompanying these extra systolic beats were never premature. The ventricular complexes were always premature, the degree of prematurity, however, varying in these beats. The type of these ventricular complexes was constant; they therefore originated, probably, from a focus high up in the ventricular septum rather than from the bundle of His itself. The T wave of the dominant rhythm was rather tall in lead 1, and inverted in lead 3. The T waves, as well as the Q-R-S complexes of the premature beats, differed from those of the fundamental rhythm (fig. 2).

This child was seen again about eight months later. The arrhythmia persisted unchanged. She had not suffered in any way from the irregularity and was entirely oblivious of its presence.

CASE 7.—M. G., a boy, first came under observation at Mount Sinai Pediatric Dispensary in the service of Dr. Rosenson, Dec. 6, 1917, at the age of 10 months. At that time no mention was made on the history chart of any cardiac irregularity. His chief complaint was cough. In February, 1920, he again appeared at the clinic and was treated for tonsillitis, there still being no mention of any cardiac abnormality. April 29, 1920, cardiac examination showed a marked irregularity probably due to extrasystoles. An electrocardiogram at that time showed numerous auricular and ventricular extrasystoles. Roentgen-ray examination of the chest showed a moderate enlargement of the bronchial lymph nodes on the right side. In November, 1920, a faint apical systolic murmur was heard. Numerous electrocardiograms were made; one made April 29, 1920, by Dr. B. S. Oppenheimer, showed isolated premature beats, supraventricular in origin, with aberrant ventricular complexes. The auricular beats began at an ectopic site, as was indicated by the inversion of the P waves

in leads 2 and 3. The localization of this abnormal site of impulse formation in the auricle is not possible. The more precocious the premature beat, the more aberrant the ventricular complexes (fig. 3).

In January, 1922, the boy was sent to the ward for further study. His general condition was good, and physical examination, except for the heart, was normal. Heart size and

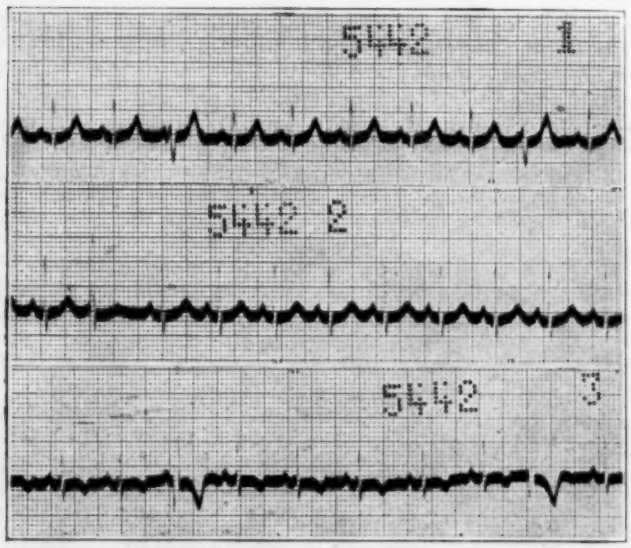

Fig. 2 (case 6).—Record of examination, Nov. 14, 1923.

position were normal. The rate was normal, but a marked irregularity due to the extrasystoles was present. There was a soft blowing systolic murmur to be heard in the region of the apex not transmitted to the axilla. There was no thrill. The urine was normal. The Pirquet test was positive. Blood count showed 9,800 white cells, with 60 per cent polymorphonuclear cells. The pulse rate varied between 72 and 96. As the boy continually complained of cough, it was thought that there might be some relation between this symptom and the cardiac irregularity. Atropine sulphate was administered, beginning with 1 drop of a 1:1,000 solution and increased to 11 drops three times daily. This had no effect on the heart rhythm. Later, this was given hypodermically with the same result.

Dr. Oppenheimer, who examined the child at this time, made this note: "The pulse and heart action are still bigeminal. There is a short blowing systolic murmur and a reduplication or splitting of the second sound of the extrasystoles. As the rhythm has not changed with atropine, I have no further suggestion. Quinidine frequently stops extrasystoles in adults, but since we have had no experience with its therapeutic effect in children, it seems unsafe to suggest it in this condition, which may be classed as one peculiarity in cardiac mechanism, and not necessarily a serious condition from the point of view of prognosis." For the next two years the boy continued coughing and tired easily. The extrasystoles remained the same, and were still present at the last examination in September, 1925.

These three cases apparently represent a different type of extrasystoles from the cases due to acute toxins referred to earlier in this paper. In the last case of the three, the continued presence of cough and the transitory systolic murmur might possibly suggest some doubt as to the harmless type of the irregularity. However, the first and second cases show that frequent extrasystoles may be constantly present over a very long period of the child's life without apparently causing any grave injury.

Seham [8] mentions two apparently normal children in whom extrasystoles were present, and reproduces the electrocardiogram of a boy, aged 10 years, showing left ventricular extrasystoles with compensatory pause, the diagnosis being functional arrhythmia, no heart disease.

As far as treatment is concerned, it has seemed best to refrain from any exhibition of drugs. When the premature beats are an accompaniment of an acute disease such as rheumatism or diphtheria, the appropriate treatment of the causative illness is to be carried out and the child is to be kept at rest for a prolonged period. In the idiopathic cases, no treatment is necessary. Drugs have not been found of any use in our cases.

Quite recently the effect of drugs on adults with persistent premature beats has been very carefully studied by Otto.[9] He showed that quinine or quinidine and digitalis both might diminish the number of extrasystoles and in some cases cause their disappearance. However, the drug effect was only temporary, for the irregularity reappeared in spite of the continued use of medication.

From the cases cited, we may, I think, conclude that extrasystoles are not of particularly serious import when they occur during childhood. They are often an evidence of acute involvement of the heart muscle, as we have seen, though apparently their presence does not necessarily indicate grave involvement. Mackenzie [10] says: "Where I have not been able to see my way clearly is in regard to the meaning of extrasystoles in acute affections; thus, during an attack of rheumatic fever or shortly after the subsidence of the fever, extrasystoles may appear. Whether they indicate that the disease has invaded the muscle I do not know, as I have not been able to follow up a sufficient number of cases to comprehend their relations clearly. In a few cases their presence was coincidental with the

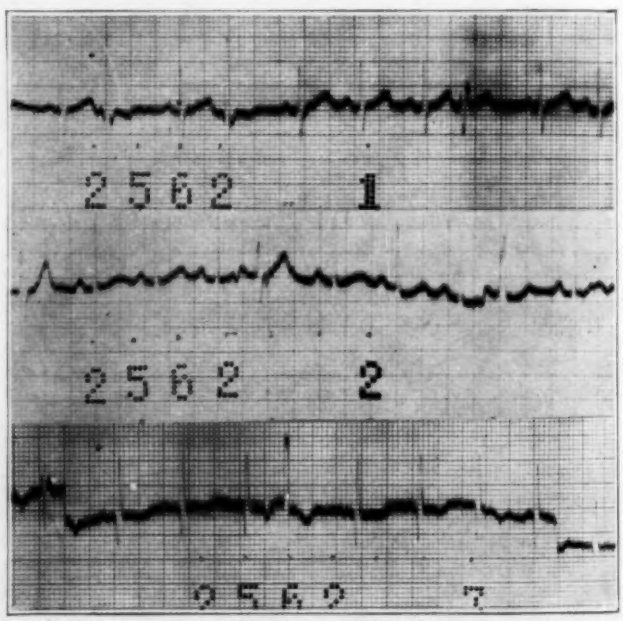

Fig. 3 (case 7).—Record of examination, April 29, 1920.

affection of the heart." I believe that we may say, from the study of the literature and from our own observations, that premature beats of toxic origin, including those occurring in the course of rheumatic

8. Seham: Electrocardiography in Children, in Abt's Pediatrics.

9. Otto: Report read before the Medical Section of the New York Academy of Medicine, Oct. 20, 1925.

10. Mackenzie: The Principles of Diagnosis and Treatment in Heart Affection, p. 111.

fever, are not necessarily a symptom of permanent injury. What the ultimate fate of such cases may be, only time and continued careful observation will tell.

SUMMARY AND CONCLUSIONS

Three varieties of extrasystoles occur in childhood—emotional, toxic and idiopathic. Of these the toxic and the idiopathic are the most important. The toxic variety occurs in the course of, or as the result of, acute infections. It is usually transitory and, although coincident with acute cardiac inflammation, is not necessarily an evidence of severe permanent cardiac injury. In most cases the irregularity completely disappears and does not seem to leave the child predisposed to attacks of recurrence. The second main variety, the idiopathic, is seen in the healthy child when, without apparent cause, the heart rhythm is suddenly changed by the frequent interpolation of premature beats. This condition is more or less permanent and does not seem to predispose to, or to result in, cardiac weakness. Even children who show extrasystolic contractions every few beats over a period of years need not present any other subjective or objective symptoms of cardiac disease.

57 West Ninety-First Street.

LUMBAR PUNCTURE AND THE PREVENTION OF POSTPUNCTURE HEADACHE *

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As the result of experiments made during 1923 and my experience since that time with the use of a small needle [1] having a round, sharp, tapering point, I am convinced that postpuncture headache is caused by trauma to the spinal dura sufficient to result in excessive leakage of cerebrospinal fluid to the point at which the brain is left without a water cushion.

These experiments demonstrated that a greater trauma was produced by the use of a needle with a blunt cutting point than by a needle of the same caliber with a point rounded, tapering and sharp. It was also shown that leakage followed puncture of the spinal dura in every instance in which the membrane was suspended and filled with water, and that the amount of leakage was in direct relation to the size of the needle used (Fig. 1).

The problem is, then, to do the puncture by ways and means that produce the least possible trauma to the spinal dural sac.

The details and methods employed in this operation are as follows:

1. The patient should be placed on a table in a comfortable position and should remain motionless while the needle is in the dural sac.

2. A local anesthetic should be used in both the skin and the deeper tissues.

3. A needle with a point that is round, tapering and sharp should be used. The needle should be sharpened so as to resemble an ordinary cambric needle and should be polished each time before it is used. Gage 22 is the most suitable, but a needle one or two sizes larger may be used with good results.

4. After the fluid appears in the hub of the needle it is advisable to aspirate the sample, using the precautions mentioned in my original article on lumbar puncture.[2]

Two hundred and fifteen consecutive punctures have been done, with a headache incidence of two in the series. The punctures were nearly all done in the office, and the patient was allowed to go home and lie down. In many instances the puncture was done during the noon hour, and the patient resumed his work for the remainder of the day, taking no precaution to prevent headache.

The spinal dura mater consists of white fibrous and elastic tissue arranged in bands or lamellae, which, for the most part, are parallel with one another and have a longitudinal arrangement. Each surface is covered by a layer of endothelial cells.[3]

Fig. 1.—Spinal dural sac suspended and filled with water. A large stream results from a puncture with a Gage 19 needle with a cutting point; a small stream from a Gage 22 needle with a round point.

It will be observed there are no circular fibers in the spinal dural sac; therefore it is possible to pass a small sharp, round, tapering pointed instrument between the fibers composing the sac without cutting any of them. The wound resulting from the use of such an instrument is a longitudinal slit little influenced by movements of the body or of the head. The fact that both surfaces of the spinal dural sac are covered with endothelial cells would indicate that there is movement of the sac in the spinal canal as well as movement of the spinal cord in the sac. The anatomist states that the dural sac hangs loosely and is not closely adherent to the bones of the spinal canal except in the cervical region.

On dissection, I observed that the attachment of the sac is firmer anteriorly than it is posteriorly, and that the attachment is so loosely made posteriorly that movement of the sac may be observed in the lumbar region when the head is moved while the cervical and dorsal vertebrae are intact.

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* Read before the Spokane County Medical Society, Spokane, Wash., Oct. 8, 1925.

1. Credit is due the firm of Becton, Dickinson & Co., Rutherford, N. J., for experimental work carried on by them in perfecting a needle of small caliber suitable for lumbar puncture.

2. Greene, H. M.: A Technic to Reduce the Incidence of Headache Following Lumbar Puncture in Ambulatory Patients, with a Plea for More Frequent Examination of Cerebrospinal Fluids, Northwest Med. **22**: 240 (July) 1923.

3. Gray's Anatomy by DaCosta, New American edition, 1907, p. 834.

When the head and neck are pulled forward, the posterior portion of the spinal dural sac in the lumbar region is pulled upward, and extension of the head and neck allows the sac to move down again. If, during puncture, a large rigid needle is used, the seesawing of the dural sac over this needle by movements of the spinal column, or even the movement of the head, will result in excessive trauma to this membrane, and much time will be required to close the membrane to its original water-tight condition.

A small needle, for this reason, is preferable, and is a much safer instrument to use because it will bend before it will break. The large needle shown in Figure 2 is gage 19, and is made of the best material. It was bent, and it broke at the angle shown. The small needle shown in Figure 2 was grasped by forceps, bent to a 90 degree angle, and then wound around the forceps like a coil spring without breaking.

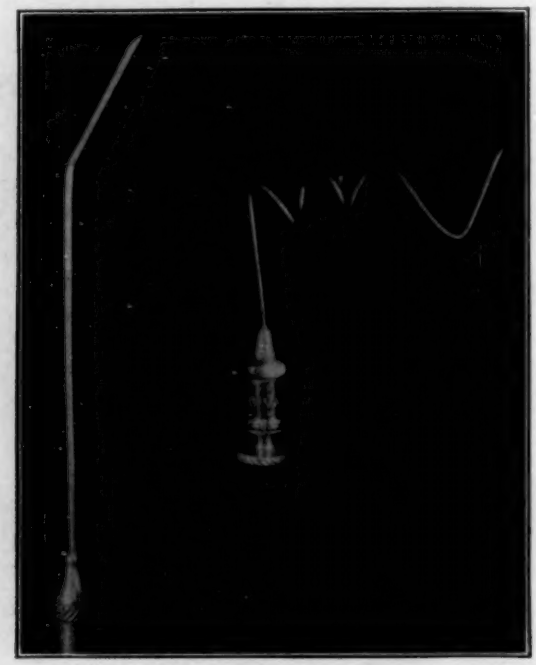

Fig. 2.—A large needle was bent with the fingers to the angle shown; it broke. A small needle was bent to a 90 degree angle and then coiled around forceps without breaking.

CONCLUSIONS

1. Lumbar puncture will not be followed by post-puncture headache unless the dural sac is injured to a degree that will permit excessive leakage of cerebrospinal fluid.

2. It is essential for the best results to keep the patient quiet and in a fixed position while the needle is in the dural sac.

3. A small needle produces less trauma and is a safer instrument to use than a large one.

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Climacteric Arthritis.—The arthritis commonly met with in women at the menopause is closely allied to the chronic villous arthritis in which the swelling of the joint is chiefly due to an overgrowth of synovial membrane. This arthritis is often associated with infective foci, but the general metabolic change in the body is more obvious and important than these. In the common type mostly affecting the knees of middle-aged women there are signs of definite thyroid deficiency, and thyroid extract should always be tried.—Gordon, R. G., Physiotherapy in the Treatment of Arthritis, *Brit. M. J.*, Jan. 9, 1926.

THE PES CAVUS OF CONGENITAL SYPHILIS *

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In the course of a systematic study of congenital syphilis in the Kings County Hospital and the Long Island College Dispensary, Brooklyn, interesting features were brought to light, which do not break entirely new ground but aid in establishing certain hitherto obscure clinical findings as stigmas of congenital syphilis.

Fournier, in 1875, first stated that syphilis was the cause of tabes dorsalis, and Erb later confirmed Fournier's work. While these two well known pioneers in neurosyphilography developed the specific side of tabes, Hutchinson, in 1896, brought out certain now generally acknowledged clinical findings as stigmas of congenital or hereditary syphilis, the Hutchinson triad, consisting of interstitial keratitis, notched incisors and eighth nerve deafness.

Since these early times, a great mass of work has been carried out in the field of clinical and pathologic syphilis, which has brought about a clearer understanding of the disease. But, as yet, certain cases of obscure congenital syphilis or syphilis hereditaria tarda, which every clinician meets occasionally, remain baffling and most difficult to diagnose. The earlier cases with positive clinical evidence, occurring in very young children, have been well worked out by many investigators, and a number of clinical findings have been definitely established as congenital stigmas. Among those recently reported is the dystrophia that Graves describes and calls the scaphoid scapula. Myopathic changes, bony changes and dental dystrophia of congenital syphilis have been described by a host of observers, chief among whom are Donnelly,[1] Hazen,[2] Roberts [3] and Wall [4] of the United States, Sabouraud,[5] Gaucher, Guilly [6] and Moses [6] of France, and Cavalaro,[7] an Italian observer, each describing some disturbance or dystrophia found in congenital syphilis.

H. H. Hazen, in a remarkably inclusive report in several articles, describes further pathologic findings in congenital syphilis involving practically every region and structure in the body. Dembo, Litchfield and Foote [8] state that the most frequent bone diseases found in congenital syphilis are epiphysitis, osteitis, painless hydrops articuli, periostitis, dactylitis, and changes in the skull with localized thickening of the bone and sometimes softening, giving rise to cranial tabes and prominent bosses. Fridley [9] states that these bone changes may be present at birth. Nichols and Ely [10]

* From the neurologic service of Dr. William Browning, chief of service, Kings County Hospital, Brooklyn.

* Many cases were taken from the congenital syphilis clinic of Dr. Given of the Long Island College Hospital, Polyhomus Memorial Clinic, Brooklyn.

1. Donnelly, W. H.: Dental Stigmata in Diagnosis of Obscure Congenital Syphilis, Long Island M. J. **14**, 1920.
2. Hazen, H. H.: Practical Observations on Syphilis, III, Am. J. Syph. **6**, July, 1922.
3. Roberts, P. W.: Diagnostic Teeth, New York M. J. **106**: 256 (Aug. 11) 1917.
4. Wall, J. H.: Arch. Pediat., October, 1919.
5. Sabouraud, R.: Sur un signe dentaire de l'hérédo-syphilis, Presse méd. **25**: 169 (March 22) 1917.
6. In Hazen, H. H.: Monograph on Syphilis.
7. Cavalaro, Joseph: Syphilis in Relation to Dentition, Dental Cosmos, November, 1908-1909.
8. Dembo, L. H.; Litchfield, H. R., and Foote, J. A.: Bone and Joint Changes in Congenital Syphilis, J. A. M. A. **78**: 319 (Feb. 4) 1922.
9. Fridley, Leonard: Syphilis in Childhood, Oxford Medical Publications, 1919.
10. Nichols and Ely: Diseases and Deformities of the Hands and Fingers, Reference Handbook of the Medical Sciences **4**, 1914.

show that dactylitis in congenital syphilis, whether of the early or of the late type, is essentially a gummatous affair, with softening of the bone. Theones [11] states that the roentgen ray is of great value in the diagnosis of bone changes in congenital syphilis. Jeanselme [12] assumes that the muscular system can be influenced like other organs in the body. Many others have contributed information on the bone, joint and muscular changes in congenital syphilis. And yet, the literature is surprisingly free from material describing bone, joint or muscle changes pertaining to the feet in congenital syphilis.

Fig. 1 (Case 2).—The foot is hollow, the toes considerably drawn up, although completely relaxed, and the arch well described.

Fig. 2 (Case 5).—The toes are not drawn up quite as much as in Figure 1, but the characteristics are easily observed.

The present report concerns certain observations made in a series of cases of congenital syphilis with particular reference to the feet, showing in practically every case, regardless of any other factor, the occurrence of a pes cavus of congenital syphilis, in which the ball of the foot is prominent, the toes are slightly flexed on the foot, the big toe more than the other toes, producing a pseudohammer toe and a typical hollow foot.

The cases observed belonged chiefly to the dispensary class, in which laboratory work and clinical study were conducted with great thoroughness. Recognized methods of diagnosis were used, and in each case a positive diagnosis of congenital syphilis was determined. The accompanying table shows the type and variety of findings used to establish a diagnosis.

In each case a positive Wassermann reaction was taken as the most definite indicator of syphilitic infection, and supplemental evidence of a positive family history was considered next in importance. Other recognized findings were looked for and used to establish a positive diagnosis.

The type of hollow foot or pes cavus found to occur in the cases of congenital syphilis observed varied somewhat in extent. In six cases of the thirty-three reported, only moderate deformity was found. This is accountable in part by the fact that these patients had all been under prolonged and persistent antisyphilitic treatment, with partial diminution in the deformity. This brings up the question of pathogenesis. Practically every case showed abnormal muscle tautness, which was independent of the presence or absence of reflexes. This finding was determined by flexing the thigh on the trunk, while the patient was in a reclining position, and extending the leg until the posterior group of muscles became taut; or bending forward, while standing with the feet together, and trying to touch the floor with the finger tips without bending the knees. A limited range of motion was observed in every case. Many of the cases showed unequal tautness of the spinal groups of muscles on the two sides, producing a very slight scoliosis, an elevation of one scapula, or a tilting of the pelvis. This unequal muscular tension was present in the muscle groups of the legs, feet and other parts of the body. Is the pes cavus, therefore, produced by an unequal tautness of the flexor and extensor groups of the tarsals and metatarsals? The hollow foot persists after death to a moderate extent. It was present in a 7½ months old fetus that was born dead; in this case the placental blood gave a positive Wassermann reaction.

Roentgenograms of many of the cases were made, and no bony changes were observed other than a presumably secondary subluxation of the basal phalanges, sufficient to produce a prominent ball of the foot. No abnormal muscle or joint conditions could be found other than the slight increase in the muscular tension of the extensor and flexor groups of the feet and legs. It was thought that perhaps the deformity of the foot might have been brought about by some nutritional disturbance similar in nature to those occurring at the other pole of the body; namely, the teeth and the cranial bones. However, nothing was found to confirm or even to point to this.

REPORT OF CASES

CASE 1.—J. G., a boy, aged 12 years, gave a 4 plus Wassermann reaction. There was a positive family history of syphilis on the father's side. The boy was sent to the hospital for paresis of the left arm and the left side of the face. There was no history or finding of anterior poliomyelitis. The spinal fluid was positive for syphilis only. The boy had Argyll Robertson pupils, very active reflexes, a saddle nose, rhagades, and a dull mentality. The parietal bosses were prominent; one upper molar showed three cusps and one five cusps. The patient was unable to bend and touch the floor with the fingers; the muscles of the legs and thighs were more than normally taut, and both feet showed a typical pes cavus as described before.

Fig. 3 (Case 10).—Again the foot is quite noticeably concave, while the toes are less pronounced.

Fig. 4 (Case 24).—Although the foot is completely relaxed, the result here is almost that of a claw foot with the characteristic concavity present.

CASE 2.—E. B., a girl, aged 13 years, gave a 4 plus Wassermann reaction. The family history could not be obtained. She was sent to the hospital for convulsions and an abnormal mental condition, where a diagnosis of juvenile paresis was made. The child had Hutchinson's teeth, with a profuse coryza; irregular, unequal pupils, which reacted sluggishly

11. Theones: Arch. f. Kinderh., Jan. 28, 1922.
12. Jeanselme, E.: Progressive Myopathies Due to Hereditary Syphilis, Médecine **4**: 96 (Nov.) 1922; abstr., J. A. M. A. **80**: 435 (Feb. 10) 1923.

to light; prominent parietal bosses; aortic stenosis, and carious teeth with the two upper molars showing five cusps. The reactions in general were very sluggish; the liver was enlarged, and the spleen palpable. Both feet showed a typical pes cavus.

CASE 4.—E. M., a youth, aged 20, gave a 4 plus Wassermann reaction. The family history was positive for syphilis. The patient came to the hospital for antisyphilitic treatment, knowing his condition; he was symptomless. He had Argyll-Robertson pupils, a saddle nose, a high palate, rhagades, a good mentality, Hutchinson's teeth, with one mulberry molar and one upper molar with three cusps, and his other teeth were carious. Reflexes were absent, but muscle tautness was present, though it was not marked. A typical pes cavus was present.

Fig. 5.—Model of the pes cavus of congenital syphilis in plaster showing the usual hollow foot, pronounced arching and pseudohammer toes.

CASE 13.—Mrs. A. K., aged 33, gave a 4 plus Wassermann reaction. The family history was positive for syphilis; the father having contracted syphilis when 18 years of age. Reflexes were absent. The patient had rhagades, poor mentality, moderate muscle tautness, and carious teeth, one mulberry molar being just visible and not as yet worn smooth, and three molars having five cusps and one molar having three. There was slight beginning alopecia, and a typical pes cavus was present. The patient is the mother of the following two patients.

CASE 14.—R. K., a boy, aged 4 years, gave a 2 plus Wassermann reaction. He is the second child of Patient 13 and represents the second generation showing congenital stigmas. He has interstitial keratitis, carious teeth, rhagades, sluggish reflexes, a good mentality, an enlarged liver and spleen, moderately increased muscle tautness, prominent frontal and parietal bosses, and a typical pes cavus, although not as marked as usual.

CASE 15.—L. K., a girl, aged 10 years, gave a 4 plus Wassermann reaction. She is the first child of Patient 13. She has been under antisyphilitic treatment for seven years. She showed rhagades, poor mentality, carious teeth, with one mulberry molar and one molar showing three cusps, a square shaped cranium, normal reflexes, practically normal muscular tautness, and a pes cavus of only a moderate degree.

COMMENT

The foregoing briefly stated case histories are examples of my observations, and they show, in practically every case, a pes cavus as one of the common stigmas.

Seventy-four children, not syphilitic, were examined and taken as controls after the possibility of a syphilitic infection had been definitely ruled out. Of this number, twenty-eight had flat feet, thirty-eight had normal feet and normal arching, and eight had a slightly exaggerated arching of the foot not associated with flexion of the toes, as in the cases observed of congenital syphilis. These children varied in age from 1 to 13 years.

Nineteen infants, with negative Wassermann reactions, and an absence of all other recognizable stigmas of congenital syphilis, were found to have either flat or normally arched feet, with the exception of one who had a foot suggestive of pes cavus. This one exception was a seven months' premature infant that later developed intestinal disturbances and died. There was no necropsy.

Twenty-five women were examined. Some stated that they wore high heeled shoes all the time and some

Conditions Found in the Cases Studied and the Methods Used in Diagnosis

Case	Age	Sex*	Wassermann Reaction†	Family History	Interstitial Keratitis	Argyll-Robertson Pupil	Rhagades	Low Mentality	Idiocy	Paresis	Deafness	Hutchinsonian Teeth	Mulberry Molar	Tricuspid Molars	Quintic-uspid Molars	Carious Teeth	Cranial Deformity	Increased Knee Reflexes	Muscular Tautness	Enlarged Liver and Spleen	Alopecia	Pes Cavus
1	12	♂	4+	+	..	+	+	+	..	..	..	..	..	+	+	..	+	+	+	..	..	+
2	13	♀	4+	..	..	..	..	+	..	+	..	+	+	..	+	..	+	+	+	+	..	+
3	15	♂	—	..	..	+	..	+	..	..	+	..	..	+	..	+	+	..	+	..	..	+
4	20	♂	4+	+	..	+	+	..	..	..	..	+	+	+	..	+	+	..	+	..	..	+
5	7	♀	4+	..	+	+	..	..	..	..	..	..	+	+	..	+	..	+	+	..	..	+
6	12	♀	D	+	+	..	..	..	..	..	..	+	+	+	+	+	..	+	+	..	..	+
7	11	♂	4+	..	+	..	..	..	..	..	..	+	..	..	..	+	+	+	+	..	..	+
8	7	♀	D	..	+	+	..	..	..	..	+	+	+	..	..	+	..	+	..	..	..	+
9	28	♀	0	+	..	..	..	+	..	..	..	..	+	+	..	..	+	..	+	+	+	+
10	11	♀	4+	+	+	..	..	..	..	..	..	+	..	..	..	+	..	+	+	..	..	+
11	2	♀	3+	+	..	..	..	..	+	..	..	..	..	..	..	+	..	+	..	..	..	+
12	4	♀	3+	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	+
13	33	♀	4+	+	..	+	+	+	..	..	..	..	+	+	+	+	..	+	..	+	..	+
14	4	♂	2+	+	+	..	+	..	..	..	..	..	..	..	..	+	+	+	+	+	..	+
15	10	♀	4+	+	..	..	+	+	..	..	..	..	+	+	..	+	+	+	+	..	..	+
16	6	♂	4+	+	..	+	..	..	..	+	..	+	+	+	..	+	..	..	+	..	..	+
17	5	♀	+	+	..	..	..	..	..	..	..	..	..	..	+	..	..	+	+	..	..	+
18	7	♀	+	+	..	..	..	..	..	..	..	..	..	..	+	..	..	+	+	..	..	+
19	5	♂	4+	+	..	+	..	+	..	..	..	..	..	..	..	+	..	..	+	..	..	+
20	10	♀	4+	+	..	..	..	..	..	..	..	..	+	..	+	..	..	+	+	..	..	+
21	6	♀	4+	+	..	..	..	..	..	..	..	..	+	..	+	..	..	+	+	..	..	+
22	14	♂	4+	+	..	+	..	+	..	..	..	..	..	..	..	+	..	+	+	..	..	+
23	11	♀	3+	+	..	..	..	+	..	..	..	..	..	..	+	..	..	+	+	..	..	+
24	14	♀	4+	+	+	+	..	..	+	..	..	..	..	..	+	+	+	..	..	..	..	+
25	7	♀	4+	+	..	..	..	..	..	..	..	..	..	+	..	+	..	+	+	..	..	+
26	9	♀	4+	+	..	..	..	..	..	..	..	..	..	..	..	+	..	+	+	+	..	+
27	6	♀	3+	+	..	..	..	..	..	..	..	..	..	..	+	..	..	..	..	..	..	+
28	9	♂	4+	+	..	..	..	..	..	..	..	..	+	..	..	+	..	+	+	..	..	+
29	10	♂	2+	+	+	..	..	..	..	..	..	..	..	..	+	..	..	+	..	..	..	+
30	12	♀	4+	+	+	..	..	..	..	..	..	..	+	..	+	..	..	+	+	..	..	+
31	39	♂	—	+	..	..	+	+	..	..	..	..	..	..	+	+	..	..	..	..	..	+
32	43	♀	—	+	..	+	..	..	..	..	..	..	..	..	..	+	..	..	+	..	..	+
33	¾‡	♀	+	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	+

* In this column, ♂ indicates male; ♀, female.
† D, doubtful; 0, not obtained.
‡ Seven months premature.

only occasionally, while three said they had not worn them at any time. They showed either flat or moderately arched feet; none had the hollow foot found in congenital syphilis. These women all had negative Wassermann reactions and gave negative family histories for syphilis. They were void of any stigmas of congenital syphilis.

Fig. 6.—A case of talipes following acute poliomyelitis, which has something in common with the pes cavus of congenital syphilis and suggests a probable similarity in pathogenesis.

Walter Truslow [13] describes a talipes equinovarus following acute anterior poliomyelitis. Two cases that I observed showed a similar condition, but the deformity was not so marked. One case following acute poliomyelitis gave a pes cavus in many ways similar to that of congenital syphilis, only much more marked and bordering on a true talipes. This gives a clue to the possible pathogenesis of the hollow foot of congenital syphilis.

SUMMARY

The cases observed, in which a positive diagnosis of congenital syphilis was made, showed many characteristic stigmas.

A pes cavus, generally bilateral, occurred in practically every case of congenital syphilis and did not occur in the control cases that were free from syphilis.

This pes cavus with its characteristic pseudohammer toes constituted a new, hitherto undescribed stigma of congenital syphilis, and apparently is dependent on a neuromuscular condition for its pathogenesis.[14] This is denoted further by a very slight scoliosis, tilting of the pelvis, muscular tautness of the hamstrings and variability of the reflexes.

Posture and wearing of high heels have no influence in the production of the pes cavus of congenital syphilis. This type of pes cavus is not progressive and rarely gives rise to symptoms. Antisyphilitic treatment seems to diminish this deformity.

The pes cavus of congenital syphilis persists throughout life and, when discovered, is a valuable aid in diagnosing obscure cases of congenital syphilis.

13. In a paper read before the Brooklyn Pediatric Society, Nov. 23, 1921.

14. The neuromuscular phase in the pathogenesis was first called to the author's attention by Dr. Rushmore, professor of orthopedics, Long Island College, Brooklyn.

Elimination Through the Lungs.—Absorption from the lungs is not only more rapid than from the stomach, but more rapid than from subcutaneous injection, and practically more rapid even than from intravenous infusion. As regards the elimination of any substance, the lungs are incomparably the most rapid channel. A substance which, even with the aid of diuresis, will be excreted through the kidneys only in the course of days, may be excreted through the lungs within a few hours. The lungs should, therefore, be used for the therapeutic elimination of all harmful substances that are volatile.—Henderson, Yandell: *Brit. M. J.*, Jan. 9, 1926.

FAMILIAL FINGER CONTRACTURE AND ASSOCIATED FAMILIAL KNEE-JOINT SUBLUXATION

DOUGLAS P. MURPHY, M.D.
RUTHERFORDTON, N. C.

Congenital finger contracture occurs both as an isolated condition and as a familial one, although the latter is less frequent. In recent years, at least, no family group has been described, that presents this abnormality. Most of our knowledge on the subject of the familial type is based on observations on single or few members of one family. In the group described here, contracture has been frequent. A large number of those having the defect have been examined, and data concerning most of the remaining ones have been secured.

The cause of congenital finger contracture has never been determined. The pathologic change underlying the contracture has long been a subject of dispute. The deformity has been attributed to flexor spasm, extensor paralysis, shortening of the volar skin, paralysis of the lumbrical and interossei muscles, shortening of the digital and palmar fascias, and shortening of the joint capsules. Neuhoff,[1] in the most recent contribution to the subject, believes that the last is the real cause, and is confirmed in his opinion by his operative findings.

Adams [2] states that the condition is usually not noticed until a month or so after birth. He believes that the deformity is most frequent in females but did not report any complete family studies on the frequency of the condition and its hereditary aspect. He found the condition to be progressive and divided it into three stages; he has been quoted on this point by subsequent authors.

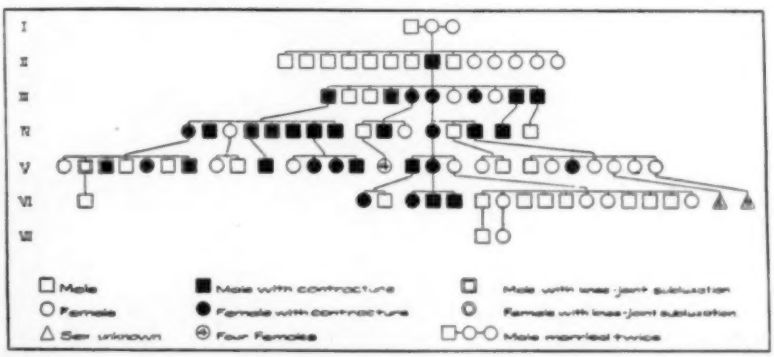


Fig. 1.—Pedigree of family presenting congenital finger contracture and associated subluxation of the knee joint.

Schultze,[3] in a comprehensive review, recorded many associated hand deformities. These included hyperdactylia, hypodactylia, klinodactylia and ankylosis of various joints. He also mentioned hammer-toe as an associated condition. Adams noted a general nervous weakness in these individuals.

The family reported in this paper live in an isolated rural community in western North Carolina. They are simple uneducated people of good habits and do not seem to have inbred closely. About one third of the family have finger contracture. It is more frequent

1. Neuhoff, H., and Oppenheimer, E. D.: Congenital Contractures of the Fingers, with the Report of a Case of the Familial Type, Surg., Gynec. & Obst. **19**: 193-198, 1914.

2. Adams, W.: On Finger Contracture and Hammer-Toe, Ed. 2, London, J. and A. Churchill, 1892.

3. Schultze, E.: Angeborne familiäre Kontraktur der Gelenke des kleinen Fingers, Centralbl. f. d. Grenzgeb. d. Med. u. Chir. **16**: 608-621, 1913.

in the males (41 per cent.) than in the females (28 per cent.), is transmitted by either sex and is equally severe in the two. It is always noticed at birth, and the deformity does not increase with age. The deformity is passed from generation to generation without losing any

Fig. 2.—Left hand of Subject V 17, showing exaggerated flexion of little and ring fingers, with the characteristic outward rotation of the little finger. The remaining fingers and thumb exhibit the same tendency. The thumb is spread as far as is possible and is straight, resembling somewhat the fingers.

of its characteristics or any of its severity. In fact, the most marked contracture was observed in the youngest individual examined. The severity of deformity in the parent does not have any direct bearing on the degree of defect as seen in the offspring.

For purposes of study, the hands in this family may be divided into three groups:

1. Normal hands.
2. Mildly contracted hands.
3. Hands having mild contracture as a basis, with an exaggerated flexion of one or more fingers.

The hands of the first group are perfectly normal in every respect and give no indication of the fact that other members of the same family are subjects of deformity

The mildly affected hands, which do not seem to have been described before, present a uniform appearance. The condition is always bilateral, and all of the digits on each hand have the same characteristics. Every joint of each digit has a slight contracture, and each one has about the same amount of deformity. This mild contracture gives the hands a somewhat "cupped" appearance. The thumbs, on account of this mild flexion, appear to be straight. They present no dorsal concavity and are strikingly similar to the fingers in their contour. It is impossible, either actively or passively, to straighten the thumbs or fingers or to hyperextend them. This test easily differentiates the normal from the abnormal hand. No associated abnormalities were observed in any of these hands or in any of the other hands in the family.

Those individuals having acute flexion of one or more fingers had a mild flexion of the remaining digits also. The little finger was most often affected, while the ring finger was a close second in this respect, the condition being almost always bilateral. Bilateral uniformity was not noticed so often, however, in the case of severe contracture of the other fingers. The middle and index fingers were more rarely affected, but the contracture in them was usually more severe. The frequency of deformity decreased as the thumb was approached, while the severity of the condition became more marked. The thumb was never the seat of more than a very mild deformity.

Contracture was always most marked at the first interphalangeal joint. The skin at the joint was always smooth and shortened but did not appear to be the chief cause of limitation of the power of extension. When contracture was marked, the fingers tended to rotate on their long axes. The little and ring fingers turned so that their palmar aspects faced toward the other fingers, while the reverse turn was given, in severe instances, to the index and middle fingers.

The most commonly associated skeletal disturbance to be noted was subluxation of the knee joint. This occurred in eleven members of the family distributed through three generations. It affected either knee, was noticed usually about puberty, and in most instances was easily reduced, after which the patient continued his work without further discomfort. This frequent joint disturbance suggests that the finger contracture is only one indication of a general bodily joint disturbance and lends weight to the observations of Neuhoff that the chief underlying cause of the finger contracture is disturbance of the joint capsule.

Fig. 3.—The hand of V 17, showing normal bones and joint surfaces.

Other stigmas observed in this family include what is called "dropped shoulder," observed in two members, and limitation of motion of the cervical vertebrae in a woman who suffered from frequent attacks of severe pain in the sacro-iliac region. Two children in one

family presented overlapping of the second and third toes on each foot. Another father and son each presented a severe speech defect, while the youngest member, possessing the most aggravated form of finger contracture, had very deformed clubfeet.

Distribution of Mild and Acute Finger Contracture *

Identification	Uniform Mild Contracture	Exaggerated Flexion of Digits				
		Thumb	Index	Middle	Ring	Little
II 8	..	..	..	..	×	×
III 1	×	..	..	..	..	..
III 4	..	..	..	..	..	×
III 5, 6	..	..	..	×	×	..
III 8	..	..	..	..	×	×
III 10, 11	No record					
IV 1, 2	..	..	..	..	×	×
IV 4, 5, 6, 7	×	..	..	..	..	..
IV 8	No record					
IV 10	..	..	..	..	×	×
IV 12, 14, 15	×	..	..	..	..	..
V 3	No record					
V 5, 7	×	..	..	..	..	..
V 10	..	..	..	×	×	..
V 12	×	..	..	..	..	..
V 13	..	..	..	..	..	×
V 14	No record					
V 16, 17	..	..	..	..	..	×
V 23	×	..	..	..	..	..
VI 2	..	..	..	..	..	×
VI 4	..	..	..	×	×	×
VI 5	..	..	..	×	×	..
VI 6	..	..	×	..	..	×
Totals	12	0	1	5	10	12

* All persons with exaggerated contracture also exhibited mild contracture of the remaining digits. This is not recorded in the chart. The extreme flexion is recorded as it occurred in either hand, the crosses recording the totals for the combined hands in each subject.

CONCLUSIONS

1. There is no evidence to indicate the cause of the finger contracture, although it appears to be a part of a degenerative physical tendency, affecting especially the joints.
2. Shortening of the joint capsules appears to be the underlying cause of the deformity.
3. The finger contracture is always present at birth and does not become more aggravated with age.
4. Males are more frequently affected than females.
5. Exaggerated flexion affects most frequently those fingers on the ulnar side of the hand, while the severity of the flexion increases as the radial side is approached.
6. The thumb never seems to present anything but a very mild form of flexion.

Rutherford Hospital.

Mental Disease Among Negroes.—The relative increase of negro patients in institutions for mental disease in the United States from 1910 to 1923 was greater than that of white patients. The rate of negro resident patients in 1923 was greater than that of white resident patients in thirty-seven of the forty-seven states. It seems probable that were equal institutional provision made for patients of the two races, the rate of negro resident patients would everywhere exceed that of white patients. The rate of resident negro patients was much higher in the northern geographic divisions than in the southern. The rate of first admissions in 1922 was higher among negroes than among whites in thirty-one states. It is probable that mental disease is more prevalent among negroes than whites. Rates of mental disease among negroes are relatively high in early age groups. Among negro resident patients and first admissions, males exceed females. Syphilitic psychoses are more prevalent among negroes than among whites. The rates of negro first admissions in nearly every psychotic group are higher in New York state than in the country as a whole. The general recovery rate in 1922 was higher among negro patients than among white patients. The rates for males were higher than those for females in both races. Death rates in most of the psychotic groups in 1922 were higher among negro patients than white patients.—Pollock, H. M.: *State Hosp. Quart.* **11**:66 (Nov.) 1925.

MULTIPLE ANEURYSMS OF LARGE VESSELS

REPORT OF CASE *

ANATOLE KOLODNY, PH.D., M.D.
IOWA CITY

In about 0.1 per cent. of deaths in America, a thoracic aneurysm is the cause of mortality. This fact furnishes a relative idea about the clinical incidence of thoracic aneurysm of the aorta. Less is known about the frequency of aneurysms of large vessels other than the aorta, and nothing is known about the clinical incidence of aneurysms of the smaller vessels. These usually remain unrecognized, unless some complication draws the attention of the patient to the condition.

Fig. 1.—The dissected large vessels of the amputated leg, showing an aneurysm of the popliteal artery at its division into the anterior and posterior tibial and peroneal arteries; the aneurysmal sac is opened to expose the partially organized blood clot in it.

Statistics compiled by American and European writers show that cases of multiple aneurysms of the aorta are encountered, although they are rare. Multiple aneurysms of the aorta would perhaps be diagnosed more frequently if looked for. Usually the recognition of one aneurysm satisfies the physician in his examination of the patient, so that no further search for pathologic change is continued. Multiple aneurysms of vessels other than the aorta are still a curiosity, with the exception of cerebral arteries, in which the small aneurysms are commonly multiple. The rarity of multiple aneurysms together with the unusual complication of thrombosis with complete occlusion of the blood vessel seem to justify this report.

REPORT OF CASE

C. C., an American man, white, aged 62, entered the University Hospital, March 22, 1925, with gangrene of the right foot. The last day of January, 1925, the patient was sitting in a chair, and when he stood up to walk, he was affected with a sudden severe cramping pain all over the calf of the right leg. The leg pained him every time he stepped on it. Over night the right leg became swollen from the knee down. Pain in the leg with numbness and tingling kept the patient in bed for about ten days, when the swelling began to disappear. Soon the toes of the right foot began to turn black.

On examination, the entire right foot was cold, and the distal half of the foot presented a dry gangrene. No distinct demarcation line was present. Pulsation was absent in the

* From the Department of Surgery, State University of Iowa College of Medicine.

dorsalis pedis and the peroneal artery, but present in the popliteal artery. In the distal end of the popliteal fossa, a deeply seated, firm, well fixed, walnut sized mass could be palpated. No pulsation of the posterior tibial artery could be felt or heard distally to this mass.

The systolic blood pressure on the right arm was 85; the diastolic, 50, and on the left arm, 140 systolic; 70, diastolic. There was very prominent sclerosis of all palpable vessels. The aorta could be easily palpated in the jugular notch. Retrosternal dulness measured more than 8.5 cm. In addition

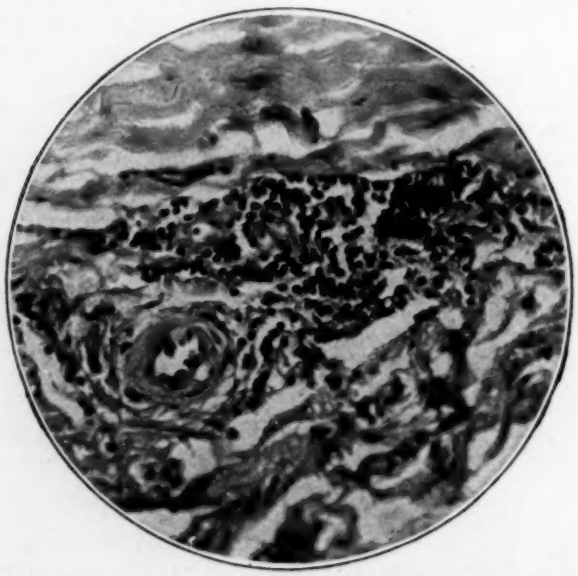


Fig. 2.—Section of the popliteal artery, showing the lymphocytic infiltration about the thickened vasa vasorum.

were found: an aneurysm, measuring 11 by 7 by 4 cm., of the right axillary artery, an aneurysm the size of a hickory nut of the supraclavicular portion of the left carotid artery, and a walnut sized aneurysm of the right external iliac artery. A roentgenogram showed a sacculated aneurysm of the thoracic descending aorta, sclerosis and senile dilatation of the vessels of the extremities. The blood Wassermann reaction was strongly positive.

April 8, an amputation through the right thigh was done. The patient had a normal postoperative course until the seventh postoperative day, when he suffered a stroke, with complete blindness of both eyes and paralysis of the right upper extremity. The next day, vision began to return, and in a week no symptoms of the stroke were present.

In the dissection of the amputated leg, the popliteal artery, at the point of subdivision into the anterior and posterior tibial and the peroneal arteries, was found to be replaced by an aneurysmatic sac about 4 cm. in diameter. The sac was plugged by a blood clot of apparently long duration. The blood vessel walls were markedly sclerosed and calcified. The lumina of the anterior and posterior tibial and peroneal arteries were patent well downward.

A histologic examination of the popliteal artery above the aneurysm showed the intima thickened and hyalinized. There were plaques with deposits of cholesterin crystals. Sections stained for elastic tissue showed the internal elastic membrane frayed into separate accessory lamellae, which united on the farther edge of the plaque. The media showed thickening and scarring with a proliferation of fibroblasts and the formation of new vessels. The vasa vasorum showed an abundant perivascular lymphocytic infiltration.

COMMENT

The multiplicity of the aneurysms indicates that this is a case in which the resistance and elasticity of the vessel walls were lessened previous to the appearance of the aneurysms. Arteriosclerosis is the most frequent pathologic condition in which the elasticity of the vessels is lowered. The next in frequency is syphilitic arteritis, a condition which is very common in tertiary syphilis, and which only recently has been recognized as entirely separate from the true arteriosclerotic entity. There is sufficient evidence on hand that syphilitic arteritis and not the true arteriosclerosis is most responsible for aneurysmatic dilatations of vessels.

The presence of calcareous deposits and cholesterin crystals in the thickened intima and the fraying of the internal elastic membrane into separate accessory lamellae which unite on the farther edge of the plaques in the present case definitely speak for arteriosclerosis. On the other hand, the thickened media of the larger vessels and the lymphocytic infiltration about the vasa vasorum are distinct signs of syphilitic arteritis. In addition to this, the strongly positive Wassermann reaction and the multiplicity of the aneurysms also support the diagnosis of vascular syphilis in the present case. Here is, therefore, a case in which true arteriosclerosis is superimposed on tertiary vascular syphilis.

The thrombosis of the aneurysm of the popliteal artery with complete occlusion of the lumen of the vessel followed by gangrene of the extremity in the present case permits some interesting speculation as to the mode of development of this condition. It is known that the development of another aneurysm on the same vessel or on a direct extension of this vessel closer to the heart weakens the circulation in the older aneurysm, and may thrombose it. Such a thrombosis may lead to the so-called spontaneous cure of an aneurysm. In such a way, the presence of an aneurysm of the external iliac artery might have caused thrombosis of the popliteal aneurysm. However, such a thrombosis would be inconsistent with the acute course as seen in the history of the patient and evidenced by the gangrene; rather,

Fig. 3.—Section of the popliteal artery stained for elastic tissue; the internal elastic membrane is frayed into separate accessory lamellae at the edges of the sclerotic plaque.

an embolic process is suggested. The clot may have formed here as a result of the lodgment of an embolus in the distal end of the aneurysmal sac, leading to cessation of the circulation through the aneurysm and to thrombosis. The site of the aneurysm at the division of the popliteal artery into the anterior and posterior tibial and the peroneal arteries is quite typical for an embolus. The embolus could have originated in a mural thrombus of the aneurysm of the iliac artery or of the aorta.

THE SURGERY OF TRACHOMA

PRACTICAL PROBLEMS *

S. LEWIS ZIEGLER, M.D.
PHILADELPHIA

The surgery of trachoma usually begins where the acute infectious process leaves off. We are, therefore, most interested in the transition stages that lie within the borderland of chronic granular conjunctivitis.

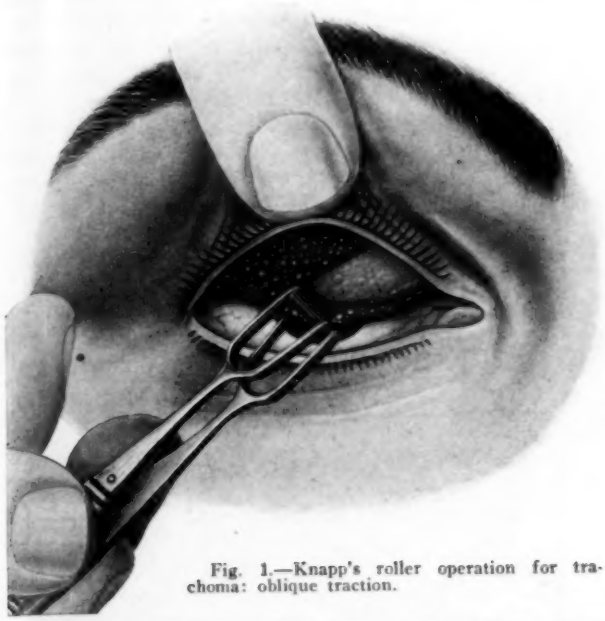


Fig. 1.—Knapp's roller operation for trachoma: oblique traction.

Without considering the etiology of trachoma, I will proceed at once to a brief review of the lesions that cause its persistence. These are purely mechanical.

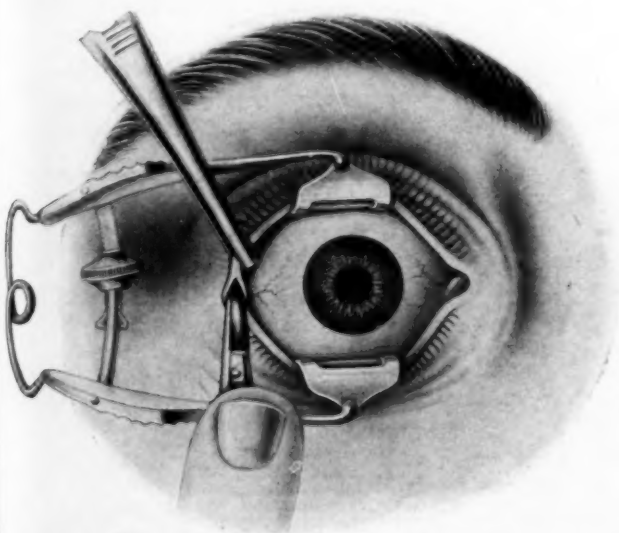


Fig. 3.—Canthotomy (Ziegler): external canthus "nicked" with small scissors; lid held tense with heavy forceps: superior canthal ligament severed (cantholysis); corner of lid should jump from 10 to 15 mm. when ligament is cut.

The two chief factors in this pathogenic dysfunction are (1) blepharophimosis and (2) lacrimal obstruction.

1. *Blepharophimosis.*—In the early stages of trachoma, blepharophimosis is caused by the acute swelling engendered by the hypertrophied papillae, the gelatinoid granulations and the engorged mucosa. In the later stages, cicatricial contraction of the conjunctiva, of the tarsal cartilage and, indeed, of the total lid structure add to the complications of our problem. The ensuing entropion with trichiasis and the consequent lid friction result in multiple erosion ulcers, or in pannus, strictly limited to the area of pressure contact covered by the superior palpebrum and visibly demonstrated by the typical line of demarcation that forms across the horizontal meridian of the cornea where it divides the pannus from the clear cornea. These corneal lesions will automatically disappear whenever the lid tension is properly relieved.

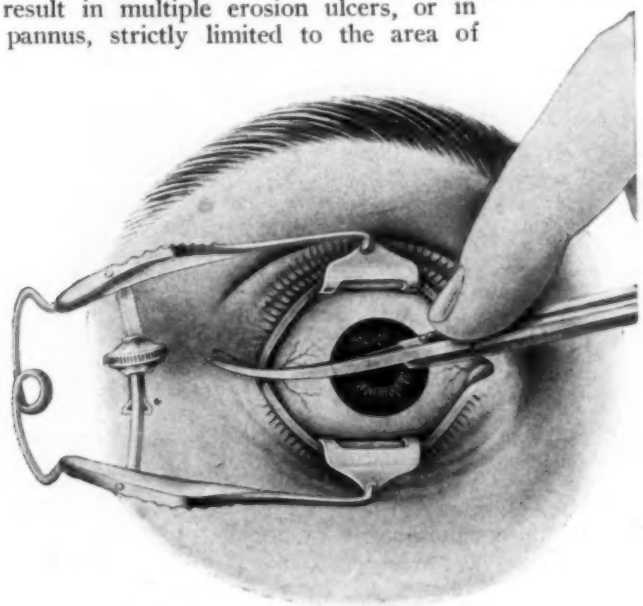


Fig. 4.—Canthoplasty (von Ammon-Agnew): canthoplasty scissors in position with curve directed upward and leaning more to skin surface.

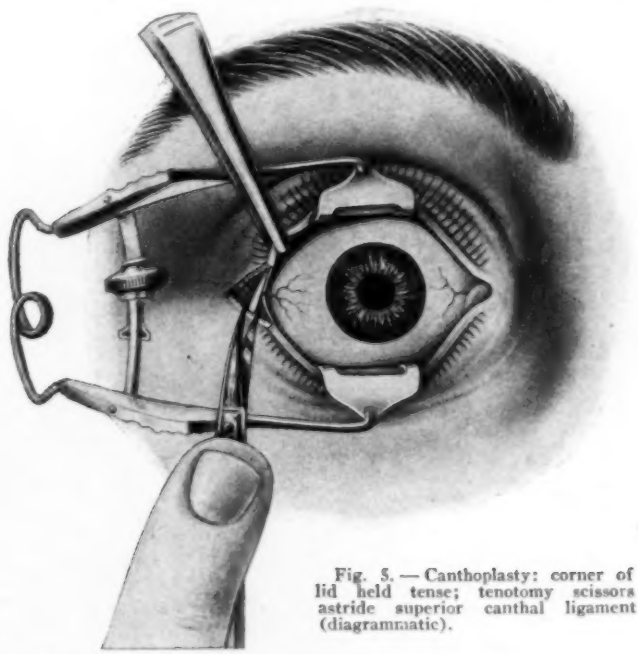


Fig. 5. — Canthoplasty: corner of lid held tense; tenotomy scissors astride superior canthal ligament (diagrammatic).

2. *Lacrimal Obstruction.*—It is not generally held in mind that the trachomatous process usually invades the mucous lining of the lacrimal canal and causes occlu-

* Read before the Section on Ophthalmology at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

† Because of lack of space, this article is abbreviated in THE JOURNAL. The complete article appears in the Transactions of the Section. The author, Dr. Samuel Lewis Ziegler, died, Jan. 4, 1926.

sion of its lumen, accompanied by either simple epiphora or the more dangerous regurgitation of septic secretions. To this may be added the infectious conjunctival discharge and the hypersecretion of tears from reflex irritation of the lacrimal gland. This excess of

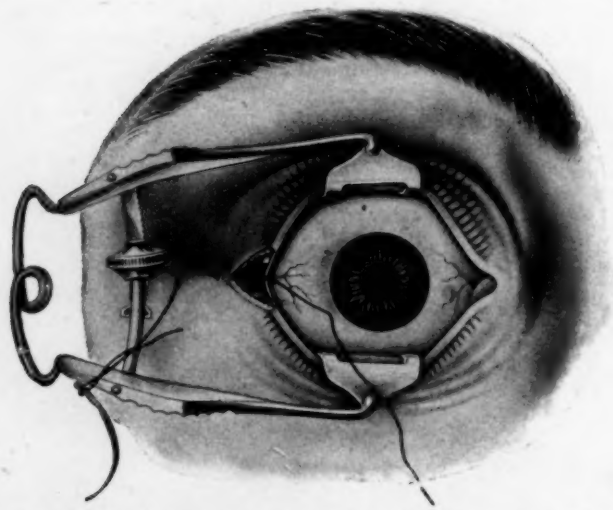


Fig. 6.—Canthoplasty: severed superior canthal ligament (cantholysis); central suture introduced.

moisture, especially if acrid or septic in character, in turn stimulates the growth of polypoid granulation on the conjunctival surface, and adds to the maceration that generally follows the corneal erosion engendered by lid friction. Nothing is more destructive than a tear-soaked mucosa. In fact, many trachoma operations that fail would have proved successful if the lacrimal lesions had been eliminated, their failure being wholly due to the excess of moisture that was persistently maintained.

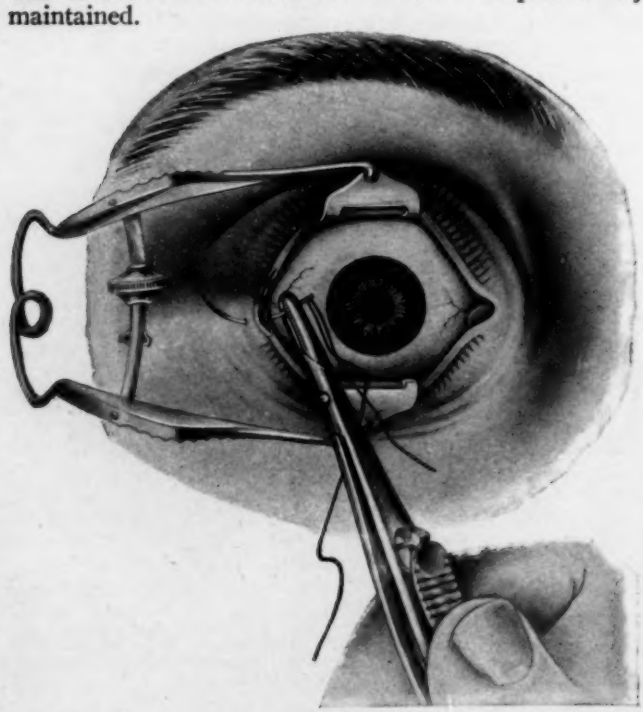


Fig. 7.—Canthoplasty: two sutures tied and third being introduced.

Bearing all these facts in mind, the practical problems in the surgery of trachoma narrow themselves down to the correction of two abnormal physical conditions, (*a*) lid friction and (*b*) lacrimal maceration.

THE CONSERVATIVE SURGERY OF TRACHOMA

1. *Knapp's*[2] *Roller Operation.*—I will refer briefly to a few salient points in the technic of expression. The upper lid should be everted, the granulations lightly scarified, and the tarsal cartilage compressed by strong roller forceps drawn obliquely downward with firm pressure (Fig. 1). This oblique direction of the movement makes easy the stripping out of the gelatinoid contents of the granulations without stretching too hard the retrotarsal fold. It should be repeated until the conjunctival surface is freed from granulations but corrugated by the mangles. If any granulations at the lower margin escape, they can be individually crushed. If by chance a few are overlooked, they can be frozen subsequently with a pencil of carbon dioxid snow. The prior introduction of my bident lid clamp (Fig. 12) will increase the efficiency of the Knapp roller forceps by furnishing a solid support for the mangles to roll over. Ice pads may be applied according to indications.

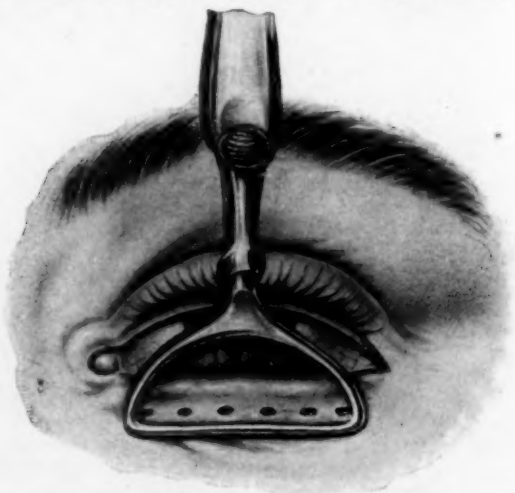


Fig. 9.—Galvanocautery puncture (Ziegler) for entropion and trichiasis: lid clamp adjusted; punctures on skin surface.

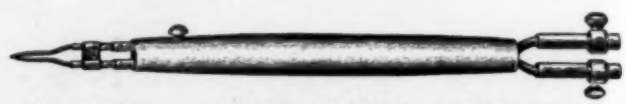


Fig. 10.—Galvanocautery handle and point for galvanocautery puncture operation in entropion (one-third reduction).

2. *Freezing with Carbon Dioxid Snow.*—To remove the turgescence of the conjunctiva, nothing is so efficient as an application of carbon dioxid snow. This conservative procedure has been highly commended by Wibo,[3] Prince[4] and others. It has a remarkable action in destroying superficial pathologic new growth by causing rapid interstitial sclerosis. I have seen its unusual effects in the treatment of trachoma, spring catarrh, pterygium tenue and melanosarcoma of the limbus. Like galvanocautery puncture and desiccation, it happily leaves behind a nicely rehabilitated mucous surface without any tendency to the production of dense, cicatricial tissue. The end-result is a beautiful, smooth conjunctiva.

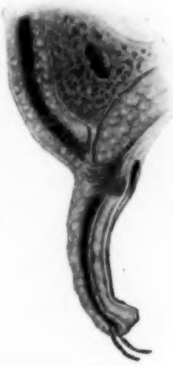
Technic of Preparation.—The pencil of carbon dioxid snow is prepared as follows: A tank of carbon dioxid

2. Knapp, Herman: Demonstration of a Roller Forceps Constructed According to the Mangle Principle for Pressing Out Trachoma Granulations, Tr. Am. Ophth. Soc., 1891, p. 148.

3. Wibo: Carbonic Cauterization in the Treatment of Granular Ophthalmia, Ann. d'ocul., March, 1913.

4. Prince, A. E.: Frozen Carbon Dioxid in the Treatment of Trachoma, Vernal Catarrh and Pterygium, Arch. Ophth. 45: 219 (May) 1916.

gas (Fig. 2) is procured from a pharmacy or other purveyor of soda water. When the tank is inclined obliquely (about 45 degrees) it will be found to contain sufficient liquid carbon dioxid to supply office needs for at least one year. The average commercial tank measures about 46 by 6 inches and costs $3.50 for the contained gas (the tank is returnable). It can be supported on the wall by a staple and a ring, or set up against the angle of the wall on a small wooden box. The nozzle should be turned downward and the valve cautiously opened. No attachment is necessary. A chamois or napkin may be held in the hand, compressed or hollow, with an ear speculum or a silver spoon placed in its center. The speculum will form a "pencil" of snow, and the spoon a "lozenge." The napkin is held near the nozzle but not too close, since the gas rushes out with some force, sputtering and often scattering the newly formed pencil of snow. The gas must not be allowed to blow on the fingers, or they will soon freeze. Silk gloves are a protection both in the formation and in the handling of the pencil. When enough snow has formed, it can either be kneaded in the napkin to harden or condense it; or, if already hard, it can be trimmed to the proper size with a knife. As the snow is quite dry, it crumbles easily. The pencil should be a trifle smaller than the area to be treated.



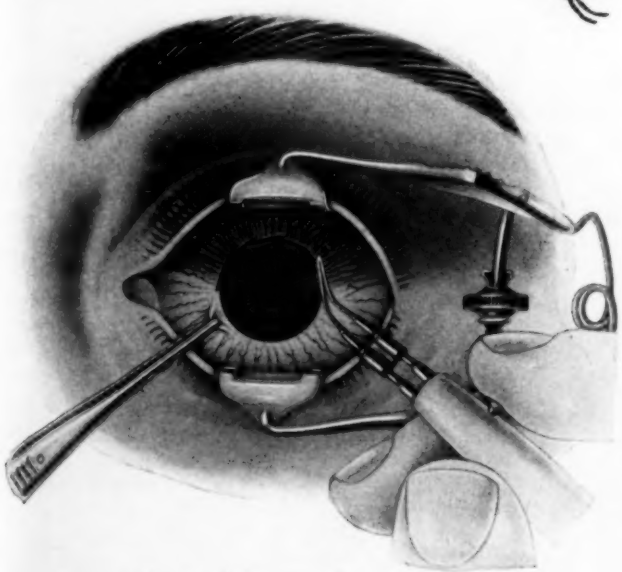


Fig. 11.—Galvanocautery peritomy (Ziegler).

Technic of Application.—The pencil of carbon dioxid snow is applied by holding it on a given area for a duration of only three to five seconds. The whole area must be treated. If the pencil is not large enough to cover the whole area, it should be applied to successive sections; one should always be alert to remember both the area and the time limit. When the pencil has been removed, the area that was covered will present a whitish appearance and should remain quietly exposed for about thirty seconds to allow the surface to thaw out. The retrotarsal fold should be turned out with Darier's lid forceps. If the lower lid is involved, it should be drawn down and the surface frozen in the same way. If there is danger of dropping the snow on the cornea, a Jaeger lid spatula should be slipped under the lid for protection.

Fig. 12.—Burow's operation: splitting the cartilage; puncture with Beer's knife; bident lid clamp (first stage, Kuhnt-Heisrath tarsectomy).

As too long an exposure may cause sloughing, it will be necessary to judge of the vitality of the tissues before applying the snow. Sometimes the reaction is quite marked. If the rolling of the lids has not been recent, a mild scarification should first be made. For the after-treatment, ice pads are indicated as circumstances require. If, at the end of a week or ten days, inspection should reveal an area that has been overlooked, a smaller pencil of the carbon dioxid snow may be applied to this limited area. Occasionally, several applications are necessary in order to give the full effect. Although

Fig. 13.—Burow's operation: dividing the cartilage with scissors (first stage, Kuhnt-Heisrath tarsectomy).

this is a simple procedure, experience and judgment are required for its proper execution.

3. *Canthotomy.*—The best procedure to relieve lid tension is cantholysis or section of the superior canthal ligament. I began the surgery of trachoma by first performing a free canthoplasty, then added cantholysis, and finally depended wholly on this section of the can-

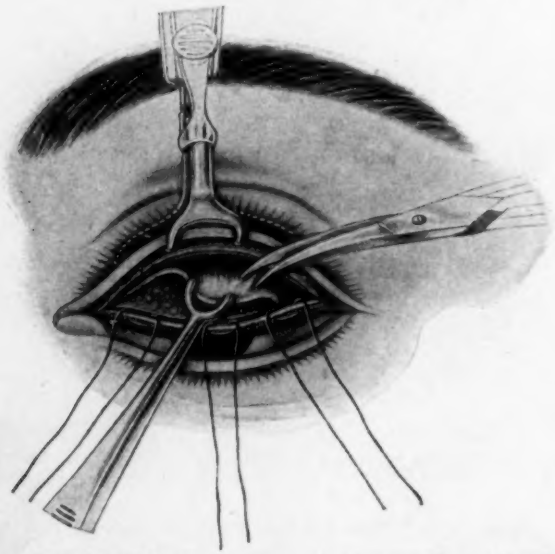


Fig. 14.—Kuhnt-Heisrath tarsectomy: excision completed with scissors; horseshoe fixation forceps; mattress sutures inserted in proximal edge of wound.

thal ligament, which I performed subcutaneously, as it were. I found that this simpler procedure of canthotomy with cantholysis would yield almost as much lid freedom as the larger canthoplasty, and with much less deformity. Only three instruments are necessary: a speculum, a heavy rat-tooth fixation forceps, and a pair of small, sharp-pointed tenotomy scissors.

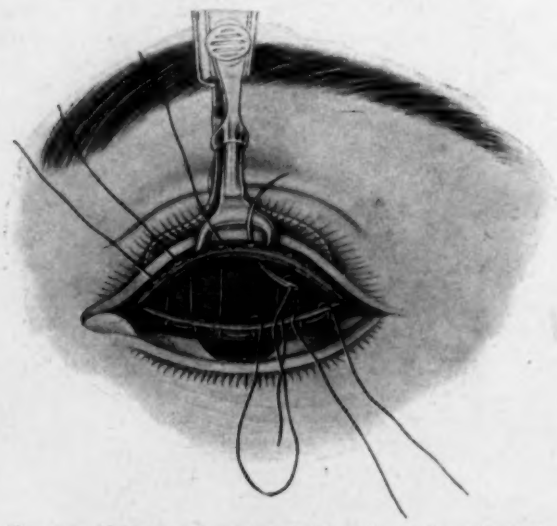


Fig. 15.—Mattress sutures inserted in ciliary edge of wound.

Technic of Canthotomy.—The corner of the upper lid is grasped by strong forceps at the external canthus, and traction made up and in to hold the canthal ligament tense (Fig. 3). With the small scissors, the angle of the external canthus is "nicked" and the sharp-pointed scissors pushed into this small wound until the tense canthal ligament is felt by stroking their points across it, just as one would feel for the optic nerve in performing an enucleation. As soon as one feels the ligament, one opens the scissors astride it and divides the ligament near its attachment to the bony margin of the orbit so as to avoid any injury to the lacrimal gland. The corner of the upper lid held by the forceps will jump up about a centimeter when the ligament is severed. If one does not get that sudden freedom of the upper lid, one has failed to divide the canthal ligament. If desired, the small wound may be closed with a single suture of No. 1 braided silk; but this is not

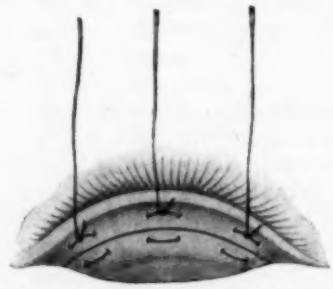


Fig. 16.—Horizontal mattress sutures tied: ends left long.

always necessary. The benefits of canthotomy are notable because immediate improvement is observed and permanent good effects are maintained.

The inferior canthal ligament should never be divided except in cases of extreme cicatricial contraction of the inferior lid border, which is seldom observed. Such a section of the inferior ligament is liable to cause a lax ectropion that is difficult to correct.

4. *Canthoplasty.*—This free division of the canthus was devised by von Ammon,[5] and improved by Agnew,[6] when he added cantholysis to the former's operation. Agnew, however, advised suturing the wound vertically instead of horizontally, which closed the wound again, so that the final effect was practically the same as that obtained with my simpler canthotomy. Where there is cicatricial contraction, slightly greater freedom will be secured from canthoplasty than from canthotomy. Von Ammon's technic is the one that is usually followed, but Agnew's addition of cantholysis yields

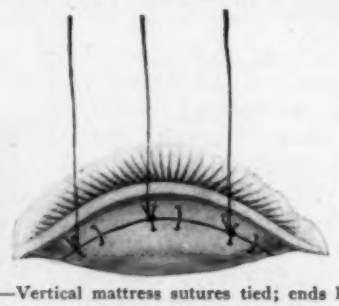


Fig. 17.—Vertical mattress sutures tied; ends left long.

a far superior result. Straight scissors are usually recommended, but a study of the facial expression after operation will prove convincing that the curved scissors with points directed upward will furnish a more pleasing effect, because they give the patient the appearance of smiling, while the straight scissors yield a sorrowful expression.

Technic of Canthoplasty.—The canthoplasty scissors are placed astride the external canthus, with curved blades directed upward and turned slightly outward so as to cut more of the skin surface than of the conjunc-

5. Von Ammon: Ztschr. f. Augenh. u. Chir. **2**: 140, 1839.
6. Agnew, C. R.: Canthoplasty as a Means to Oppose Certain Maladies of the Eyes, Ann. d'ocul. **2**: 181, 1875.

tiva (Fig. 4). The skin is unyielding but the conjunctiva usually stretches a little, or can easily be made to do so. The upper lid is then grasped by the strong forceps, the superior canthal ligament drawn taut (Fig. 5) and severed by the same technic as described under the procedure of canthotomy (Fig. 6). Three sutures of No. 1 braided silk are then inserted (Fig. 7) to join the skin and conjunctiva together, the central one being entered first and tied so as to secure good apposition. Some omit the sutures; but this is unsurgical, since distortion and granulomas may result. If the lacrimal gland is injured, a lacrimal cyst may follow, which is troublesome to relieve. Occasionally a small artery is severed that will require torsion or ligature.

5. *Rapid Dilation of the Lacrimal Canal.*—A patulous tear duct is most essential to drain off the acrid lacrimal secretions and thus relieve corneal maceration by drying up the excessive moisture. I have twice discussed the advantages of this method of relief before this section, in 1910 [7] and 1922.[8] It is better to avoid incision of the canaliculus because of the tendency to cicatricial contraction that is present in a xerotic conjunctiva. In some cases, however, Bowman's operation may be necessary. My lacrimal dilator occurs in six sizes: 1.5, 2, 2.5, 3, 3.5 and 4 mm. (Fig. 8). These are equivalent to Theobald's probes, Nos. 6 to 16.

Technic of Rapid Dilation.—The small dilator (1.5 mm., or No. 6, same as needle-probe) is entered vertically into the punctum and passed horizontally through the canaliculus until its point rests solidly against the bony wall of the sac. It is then withdrawn and the large dilator (3 or 3.5 mm.) substituted, and passed through the canaliculus until the point rests against the bony canal. The shaft of the dilator is now raised to the vertical, half rotated with bayonet to the rear and forcibly passed backward, downward and forward through the duct until its point rests on the floor of the nose. It is then withdrawn.

Rapid dilation of the lacrimonasal canal retains the capillary action of the duct and so directs the current of lacrimal drainage downward into the nose. The relief from lacrimal maceration will promptly be made evident.

6. *Galvanocautery Puncture for Entropion and Trichiasis.*[9]—The ill effects of lid friction arising from incurvation of the tarsal cartilage, combined with trichiasis, are so manifest that the possibility of securing relief by so simple a procedure as galvanocautery puncture has proved to be a great boon. Many serious plastic operations that have been ingeniously devised to relieve these complications have been made wholly obsolete by the efficiency of this simple procedure. As the technic becomes more familiar by practice, many additional indications will be found for its application. It should always be remembered that a hot cautery point in the presence of ether will cause an explosion.

Technic of Galvanocautery Puncture.—The lid clamp is adjusted over the skin surface of the lid, with its straight bar set parallel with the margin (Fig. 9). The galvanocautery point (Fig. 10) is applied to the skin surface with pressure, the current is turned on, and a quick thrust is made through the cartilage and the point as quickly withdrawn. The punctures are located at intervals of 4 mm. and at the same distance from the lid margin. In ectropion, the same technic is executed on the conjunctival surface.

If preferred, the current can first be turned on to heat the cautery point and the punctures executed with a "free hand" by making them as "quick thrusts." Under no circumstances should slow punctures be made, since prolonged contact is dangerously destructive. The charred eschars may be removed, and solution of formaldehyd, U. S. P., in 1 per cent. dilution, applied to each puncture. If there is any reaction, ice pads should be used as needed. No dressing is required. The immediate effect is quite noticeable. Healing occurs in one week. The procedure can be repeated in two weeks if it is evident that the condition is not sufficiently corrected. The second set of punctures should alternate with the first set.

Where there are irregularities in the lid margin and the lashes are not uniformly distorted, the surgeon will have to exercise his ingenuity to meet the emergency. If only one or two eyelashes are displaced, a small cautery point can be used to make a puncture below the root of each individual lash without going through the cartilage, thus turning out the lash alone but not affecting the position of the tarsal border.

7. *Galvanocautery Peritomy for Pannus.*—When the pannus does not disappear automatically after correction of these lesions by the procedures described, there is indicated for its relief either the simple pericorneal incision known as peritomy, or the more radical excision of a strip of conjunctiva around the cornea known as peridectomy. I prefer, however, to practice a different procedure, which I have designated as galvanocautery peritomy (Fig. 11). A series of deft touches with the galvanocautery point are lightly made around the superior limbus until the precise area of vascularization is cut off. If there are dilated vessels on the cornea, they may also be touched along their course. Too deep a burn over the ciliary body may set up glaucoma, while H. Knapp has warned us that overheating of the aqueous may result in cataract.

The eschar may be carefully removed and solution of formaldehyd, U. S. P., 1 per cent., applied. No dressing is required, but mercuric chlorid ointment should be placed in the culdesac. Ice pads are indicated, according to circumstances. This is a most efficient procedure if properly performed. It is an emergency measure that is seldom required.

THE RADICAL SURGERY OF TRACHOMA

As previously stated, two procedures are available for those cases that require more radical relief: Burow's operation of splitting the tarsal cartilage for the milder cases, while the extremely chronic cases that are beyond all hope of conservation should be cared for by the more radical Kuhnt-Heisrath excision of the tarsal cartilage. In fact, the first named procedure may be considered the primary stage of the latter. Whichever one of these measures is decided on, it should be preceded or supplemented by three of the conservative procedures previously described: canthotomy, galvanocautery puncture, and rapid dilation of the lacrimal canal. These should always be made a sine qua non in all operative procedures for the surgical relief of trachoma.

8. *Burow's* [10] *Operation.*—This is quickly accomplished by fixing the upper lid with the bident lid clamp, making a small puncture of the tarsus near the ciliary

7. Ziegler, S. L.: The Radical Treatment of Lacrimonasal Disease by Rapid Dilatation and Allied Measures, J. A. M. A. **54**: 2026 (June 18) 1910.

8. Ziegler, S. L.: A Further Note on Rapid Dilatation in the Radical Treatment of Lacrimonasal Disease, J. A. M. A. **78**: 1701 (June 3) 1922.

9. Ziegler, S. L.: Galvanocautery Puncture in Ectropion and Entropion, J. A. M. A. **53**: 183 (July 17) 1909.

10. Burow: Berl. klin. Wchnschr., June, 1873, p. 295.

margin with a Beer's knife (Fig. 12) and executing a division of the cartilage along the gray line with strabismus scissors (Fig. 13). The scissors should hug the cartilage closely so that no other structures will be divided. By cutting first from the center toward the inner canthus and then turning and cutting from the center toward the outer canthus, the incision is easily completed. A compress and bandage is usually applied for twenty-four hours. Occasionally a divided artery must be controlled, and sometimes a secondary hemorrhage will occur during the first night. This splitting of the tarsal cartilage by making a flail-like hinge of the upper lid will accomplish three things: (1) turn the margin of the lid outward, (2) relieve the trichiasis, and (3) add greatly to the lid freedom.

9. *Tarsectomy by the Kuhnt-Heisrath Method.*—Tarsectomy was first suggested by Heisrath [11] (1882) and later improved by Kuhnt [12] (1897). Blascovics [13] asserts that conjunctival contraction is responsible for the incurvation of the cartilage. He loosens the whole cartilage, leaving an anterior pedicle, and then turns it over, end for end. He adds mattress sutures, which he passes out through the intermarginal line and ties there. This permits of their removal from the skin surface without disturbing the conjunctival wound.

Technic of Tarsectomy.—The splitting of the cartilage just described under Burow's operation may be accepted as the primary stage of tarsectomy (Figs. 12 and 13). With the bident lid forceps retained in place, an incision is next made along the proximal border of the cartilage with the knife. This permits the insertion of three double armed mattress sutures of No. 2 black silk in the lower edge of the wound, with the loop of thread resting on the conjunctival surface (Fig. 14). The assistant makes traction on one or all of these threads as the surgeon grasps the ciliary edge of the cartilage with horseshoe forceps and turns it downward, while he uses the scissors as a blunt dissector, or clips away the pretarsal tissues until the cartilage is wholly excised and the retrotarsal fold dissected loose. The mattress sutures are now passed through the ciliary margin of the wound (Fig. 15) and drawn taut, after which the bident lid forceps are removed. The threads are then tied in good approximation, leaving exposed the horizontal loops of three mattress sutures (Fig. 16).

An alternate arrangement permits insertion of these sutures so that the exposed loops will rest vertically across the open wound, which makes better approximation. In this technic the needles are dipped into the conjunctival tissue parallel with each margin of the wound, and when the sutures are tied vertically across the wound they appear more typical of the mattress type (Fig. 17). In either case, one end of each suture is left long and the three ends are fastened together on the cheek by adhesive plaster. This facilitates the removal of the sutures on the fifth day, as they can be drawn down and clipped without disturbing the wound.

Since corneal ulceration has occasionally followed the pressure of the threads on the cornea, it will be the part of wisdom to insert mercuric chlorid ointment into the culdesac as a lubricant and antiseptic. If there is reaction, ice pads should be applied as needed.

Many serious deformities have been apprehended as the sequelae of tarsectomy, such as lagophthalmos or ptosis; but, if the technic is properly followed, no untoward result need be feared. Healing is usually uneventful, but the palpebral aperture will probably be a little wider, owing to the vertical shortening of the lid. Each advance in this operation has been in the direction of conservation of tissue. Hence an earnest effort should first be made to regenerate the retrotarsal fold by rolling and carbon dioxid snow before sacrificing it.

11. Heisrath: Ueber die Behandlung der Granulom, Berl. klin. Wchnschr., 1882, Nos. 28, 29 and 30.
12. Kuhnt: Ueber die Therapie der Conjunctivitis granulosa, Klin. Jahrb., 1897, p. 413.
13. Blascovics: Ztschr. f. Augenh., 1906, p. 391; Arch. f. Ophthal., January, 1925, p. 38.

SUMMARY

1. The complications of trachoma are persistently maintained by two mechanical processes: (1) lid friction, from blepharophimosis and trichiasis, and (2) lacrimal maceration, from perversion of the tears and obstruction of the duct by trachomatous invasion.

2. The practical problems involved are (1) to preserve normal tissue by conservative surgery, or, if this fails, (2) to resort to radical surgery.

3. The conservative surgery of trachoma calls for (*a*) canthotomy and (*b*) rapid dilation of the duct, combined with (*c*) galvanocautery puncture, (*d*) Knapp's roller operation and (*e*) freezing by carbon dioxid snow; while (*f*) galvanocautery peritomy may be used to relieve pannus.

4. The radical surgery of trachoma requires, in addition, (*g*) Burow's splitting of the cartilage or (*h*) Kuhnt-Heisrath's tarsal excision.

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THE TRACHOMA PROBLEM AMONG THE NORTH AMERICAN INDIANS*

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The subject of trachoma is inexhaustible. Most of the literature is confined to European trachoma, with here and there an excursion into the American type, as it exists in the big cities and in the mountain fastnesses of this or that Southern state. But the searcher after truth will be amazed to find how few recorded observations there are as regards a permanent population wholly under the domain of the federal government, whose life and habits permit of continuous surveillance. When the governmental agencies take an interest in the citizens of any of the sovereign states, the question is raised as to their authority to do so; yet here is an entire people, over whom the federal government has unhampered authority, who are affected from time to time with infectious diseases and yet the medical profession, as a whole, has paused not at all to consider these affections as of more than passing interest.

According to the statistics released by the Department of the Interior, Oct. 6, 1924, there were 346,962 Indians of record in the United States. There were in addition about 60,000 who had surrendered their tribal identity and had mingled with the whites, making approximately 400,000 persons in all. It is regarded by the same source as doubtful whether the Indians have ever numbered more than that number since the advent of Columbus. In the last eleven years, the population has increased 16,283. In the year ending June 30, 1924, the increase was 2,619. The state of

* Read before the Section on Ophthalmology at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

Oklahoma still has the largest Indian population, about 119,989. In fourteen other states, the number is more than 5,000. In Arizona, for instance, there are 42,841, while in South Dakota there are 23,962. In New Mexico there are 20,834, and in Minnesota there are 13,920. In California there are 18,702, and in Montana there are 12,953. Washington has 12,264, but we are surprised to find in North Carolina 11,949. These are a few of the large Indian groupings, and they must be mentioned in order to gain a proper idea of the importance of studying these people from an epidemiologic standpoint.

The Department of the Interior, through Secretary Hubert Work, informs us that trachoma under the names of "granular sore eyes," "granulated lids" and "Indian sore eyes" has been known to the Indian Service for a great many years. While the identification of these several ocular conditions with true trachoma must at best be but a matter of speculation, we do find a significant item in the reference to a kind of grattage performed by the medicine men of several of the tribes by an improvised scraping instrument, such as a part of a section of a reed with one edge sharpened by rubbing it on an abrading surface or by scraping it to thinness with a piece of glass, or by the use of sharp-edged reed leaves cut in short pieces so that they would not bend.

The mystic haze that has surrounded this subject in official circles has so intrigued me that search for more information was inevitable. However, recourse to more than thirty authoritative Indian works, as well as personal communications with missionaries and other competent observers, elicited only this information that may be regarded as reliable—that from time to time there have occurred pronounced epidemics of eye disease, epidemics that spread with great rapidity through the tribes and then subsided. And again, epidemics of like character recurred when the children of the tribes were sent to the government boarding schools.

In the last twenty years it has been my privilege to observe the Indians in the Carlisle School, in the Northwest and in Alaska; and, while the disease did exist and was recognized by the Indian Medical Service as trachoma, it presented no such problem as it has in the last few years. In 1923, in the little group of 1,168 people adjacent to Glacier National Park, there were found by the physicians of the Indian Bureau 351 cases of the disease. According to the way one looks at this, it may seem large or it may seem small; but if a glance is given the figures of the department after a survey made in the fall of 1924, the government's estimate of the existence of 27,856 cases of trachoma will convince even the most indifferent reader that our Indian population occupies a position of commanding importance among the trachoma countries.

While the disease appears in two principal types—the acute granular and the cicatricial—the granular is unquestionably the most pronounced granular conjunctivitis it has been my privilege to observe. The mild forms observed in the Eastern cities somewhat dull one's appreciation of how violent and virulent this affection may become, and the student could do no better than to stop off at one of these reservations and observe a few of these cases.

The activities of the federal government in the past have been limited by the funds at its disposal. Until 1910 there was no special appropriation made for health work, such work being carried on as a part of the agency and school work. The first appropriation in 1910, of $12,000, marks the beginning of the special work in trachoma. As a result of this appropriation, more than 700 cases received special treatment in the hospital at Phoenix alone, and many others at the different agencies. The regular physicians, awakened by the specialists sent to them, found that about 20 per cent. of those examined (in all, about 20,000) had the disease.

This appropriation was special. The purpose to which the funds of this appropriation were applied is fairly well designated in the title, "Relieving Distress and Prevention, etc., of Disease Among the Indians," and in general it was used to support sanatoriums for tuberculosis and to maintain hospitals where tribal funds are not available. Special physicians for the treatment of diseases of the eye, ear, nose and throat, and field dentists are paid from this appropriation, as are also two medical supervisors, so that it should not be regarded as the only source for the obtaining of medical service. However, in 1915, it had been increased to $300,000, reaching $375,000 in 1922; but, under the pressure of persistent agitation, this fund for 1925 has been increased to $500,000, which is a source of great satisfaction to those of us who have taken an interest in the situation. Sufficient money is the first essential in handling this kind of problem.

Unfortunately, some of the well meaning but misguided agitators could see no way of meeting the emergency except by complete housecleaning and disorganization prior to reconstruction. This was manifestly an error, as the disease was progressing while debate was in progress. However, the Bureau of Indian Affairs, with the little encouragement it received, promptly recognized the gravity of the situation and expanded to meet conditions. In October, 1924, the Indian Office had an authorized force of seven ophthalmologists and thirteen nurses traveling through the trachoma country, treating trachoma and other eye diseases. The several trachoma experts that had been developed out of the 200 agency physicians were thrown into the breach, and intensive treatment was begun. One ophthalmologist was sent throughout the several stations instructing the physicians and organizing campaigns. An endeavor was being made to make each physician an expert in the disease as it occurred in the Indians.

To the increase in funds and a growing sentiment for action, Commissioner Burke added, with stimulating naïveté, the dictum that the Indian physicians must learn how to handle the disease or get out of the service. This acquisition of knowledge was to be obtained by attendance at the special clinics provided by the government, and learning how to do the operations recommended.

Trachoma has been considered many thousand times as regards its treatment, and while each case may present some features that set it apart from others, the handling of a great group must be approached with some definite policy agreed on beforehand. Certain local applications have been held in high regard for many years, and doubtless do great good in properly selected cases. But the Indian cannot be considered as in the class that will stand for protracted treatment of any kind. Indians will not come to the physician for local applications more than a very few

times, and will not use such medicines in their own habitations. The Indian physicians know this, and it occasions them considerable chagrin, time and again, when simple conditions could be handled by local applications in their beginning. Unless the case can be hospitalized, there is little progress.

The Indian is a born skeptic anyhow, and must be handled by those familiar with his temperamental vagaries. It is therefore rather difficult to impose on him a new organization. He will run from the entire outfit. This explains the wonderful progress the Bureau of Indian Affairs has made with this problem, once given the opportunity to expand its organization along the line of well tried fundamentals.

In 1923, it was my privilege to visit the Blackfoot Reservation in Montana.[1] Here I encountered only encouragement, and the results were very gratifying.

At a subsequent visit, in 1924, to the same reservation, I held teaching clinics, and the results of the previous year were carefully studied. By a most fortunate circumstance, several patients on whom I operated while they were pupils of the Carlisle School in Pennsylvania were members of the tribe and served to introduce me to the Indians and to vouch for me in the proper manner.

The work here was indeed pleasing to all concerned, and it was with no little satisfaction that the honor of being made a member of the tribe was conferred on me. The officials of the bureau were evidently impressed, as the program subsequently instituted by them embraced the principles enunciated at the clinics.

A subsequent visit to the Navajo Reservation in January, 1925, found this program in full blast, under the able command of Dr. J. S. Perkins. During this visit teaching clinics were held, and fourteen of the Indian Bureau physicians attended and took part in the operations.

The medical phase of trachoma is not without interest, despite the feeling in some quarters that the operations do not do all that is expected of them. Certain it is that local applications do very little among the Indians. The only prophylactic measure of any importance is to render the host of the disease inert from a trachoma standpoint. It is extremely difficult to teach these ignorant Indian women that the bottom hem of their skirts is not the proper thing with which to wipe their noses and their babies' eyes. The urging of health journals, such as *Hygeia*, on them would be ridiculous, and even the talks to the youngsters accomplish very little.

Whether one delights in the performance of the scraping operation known as grattage or not, the fact remains that this removes the disease more quickly and with less deformity than the way Nature goes about doing it.

There will always be a definite percentage that will resist this operation, and the procedure will have to be repeated. The scarring is very little, if any, but sometimes there is a slight incurving of the lid, a mild form of entropion, and to obviate this the operation of slitting of the cartilage, known as Burow's operation, is combined with the grattage. The grattage operation is for the granular stage, and is really the only operation directed against the disease itself, the infecting agent doubtless being contained within the granulations. If all the granular trachoma patients could be presumed to be operated on at once, trachoma would be under control.

The Bureau of Indian Affairs, through Charles H. Burke, commissioner, and E. B. Merritt, assistant commissioner, is attempting to have all these patients operated on within a year, thus rendering such patients inert so far as disseminating the disease is concerned.

In the stage of cicatrization, the disease is considered only from the individual standpoint. Can we make such patients more comfortable and can we prevent them from spending the remainder of their days in darkness? The resection of the tarsal cartilage unquestionably makes the patient more comfortable—reduces the irritation of the cornea and lessens its opacification, thus changing the whole complexion of the disease. We have endeavored to instruct the men in the Indian Medical Service in the technic of these operations as we know them, and we have been equally astonished with them at the spectacular results obtained.

1. Fox, L. W.: Arch. Ophth. **53**: 166-171 (March) 1924.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. ZIEGLER AND FOX

DR. J. A. STUCKY, Lexington, Ky.: Until five or six years ago I used practically the same technic as described by the authors, the object being to relieve the photophobia and lid friction from blepharophimosis and trichiasis. I have not found lacrimal obstruction in very many cases; hence I have ceased to use forcible dilation as a routine measure. Its use produced too much traumatism and complications, defeating the object of the treatment. I convince myself that there is no retention in the lacrimal sac by irrigation or the use of the small lacrimal probe. Further prevention of maceration from a tear soaked mucosa is prevented by abstaining from the use of bandages or dressings of any kind. Emphasis is placed on accomplishing the restoration of physiologic function with the least possible destruction of tissue. Xerosis of the conjunctiva and limitation of the functional movements of the globe are terminal disasters that should always be borne in mind. I rarely resort to more radical surgery than that of grattage either with Knapp's roller forceps or a tightly wadded pad of gauze. I have found the canthotomy and severing of the superior canthal ligament as described frequently followed by spectacular results because of the removal of the mechanical irritation. The galvanocautery puncture for entropion and trichiasis has not given me the same results as the plastic operation, nor have I obtained as satisfactory results from the operation of periotomy for pannus, the latter being a sequela of the mechanical friction and speedily relieved after the friction is removed. Burrows' operation and the Kuhnt-Hiesrath tarsectomy have not proved successful in my hands. The retraction and lid friction continue in many instances. The pathos of the whole trachoma problem is that frequently the disease returns and we have exacerbations and flare-ups, unless we continue the follow-up treatment by cleanliness and dietary measures. In the last five or ten years my ideas of trachoma, its etiology and treatment, have undergone a decided change.

Too many cases of folliculosis and conjunctivitis are treated as trachoma resulting in cicatrized lids, often with obliteration of the posterior fold of the conjunctiva. Keratitis, ulceration and iritis often persist, and in these protein therapy has given me most satisfactory results.

I do not use grattage as frequently as I did, instead touching the trachomatous parts of the lid with a pencil of ammoniated copper. This in many cases causes severe pain for a short while and the lids should be anesthetized thoroughly before this remedy is applied. Equal in importance to this surgical treatment is the diet, and when I have been able to keep the patient on a well balanced diet plus cod liver oil and malt for some months there have been no recurrences of the disease in cases which I have observed for four or five years. The people in the mountains use little or no milk or butter, but they use highly refined flour and sugar, their food being cooked in a way to destroy the vitamins and mineral salts. I am increasingly convinced that trachoma will be proved to

be one of the major deficiency diseases and is far less infectious than I once thought it to be.

DR. I. Z. STALBERG, Atlantic City, N. J.: I feel that I should apologize because I am not an ophthalmologist, but I believe that seven years' experience in the United States Indian Service gives me the privilege of speaking a few words. I hope Dr. Fox, my old teacher, will forgive me that I cannot agree with him as to the title of his paper. That title might have been true twenty or twenty-five years ago when the Indians were a body of people unto themselves, and when they lived on reservations where there were very few white people except those employed in the service who came in contact with them. But at present this title, "The Trachoma Problem Among the North American Indians," does not hold true. With the opening up of the Indian reservations, and the white people coming in, with the Indians marrying whites and going to the various parts of the country, I feel that the trachoma problem is definitely a problem of the entire North American people. We all agree as to the contagiousness of trachoma and the seriousness of the problem. In 1910, when Dr. Fox mentioned that the first $12,000 was appropriated for relief of trachoma among Indians, I was connected with the service, and I visited the Cheyenne reservation in South Dakota and pointed out some of the problems with which we had to contend. Dr. Fox's recommendations are excellent, but I do not think that the Indian Bureau can solve the trachoma problem among the Indians. Fifteen years ago I started there, and my experience among 50,000 Indians is that 50 per cent. of them have trachoma. I have not been on a reservation for seven years, but Dr. Fox's statistics show the present situation, which I feel is as serious as, if not more so than, it was eight years ago. The Indian service has failed to solve the problem in fifty years. How will they solve it in the next fifteen years with more trachoma than ever? My suggestion is that the United States Public Health Service take over the trachoma problem and with its vigorous methods of attacking contagious and infectious diseases, they will go after this problem in such a way that in a year or two, or at most in ten years, they will solve the trachoma problem in the United States.

DR. W. H. WILDER, Chicago: The Board of Trustees of the American Medical Association suggested to the Department of the Interior the appointment of an advisory committee to confer with the Commissioner on Indian Affairs in regard to the subject of the prevention of trachoma among the Indians, and the board appointed on that committee Dr. W. C. Posey, Dr. Arnold Knapp and myself.

In outlining the suggestions for attacking this problem we felt that one of the most important things we could urge was not only the prevention of the disease among the Indians who had not already acquired it, but also the prevention in the population adjacent to the Indian reservations, because we learned that down in the Oklahoma country among the white population contiguous to the so-called five civilized Indian tribes there is almost as much trachoma now as among the Indians themselves. As Dr. Stalberg has mentioned, the problem is not alone one of trachoma among the Indians, but a still greater one in that there is this distinct menace to the surrounding population. A careful inspection and survey should be made of all these wards of the government, and with such power as the Department of the Interior has, we think that such a survey should be made not only very instructive, but very beneficial. In such a survey the cases could be separated —those that were necessary for hospitalization could be so designated and in those cases that could be treated as ambulant the patients could be enjoined to appear at regular intervals at the hospital for treatment. While it is extremely important to attack those cases that now exist by the best means at hand, still we stress the important matter of disseminating a knowledge of trachoma among the Indians. We believe the Indians are intelligent enough to help disseminate such knowledge, and we urge that when clinics are established that tracts be distributed by every physician, not only to the mothers, but to the people in meeting houses, churches and schools, and that the nurses and physicians be constantly urging the prevention of the disease by simple personal cleanliness, which we think can be taught in spite of what Dr. Fox has said.

DR. L. WEBSTER FOX, Philadelphia: I am highly gratified to have the privilege of hearing and of discussing this most comprehensive paper. Frequently, ophthalmologists fail to understand that trachoma must be treated vigorously and that first of all the patient must be rendered inert so far as contagion is concerned. It has been shown why the disease persists—a valuable point in any treatment. Blepharophimosis unquestionably is the one greatest cause of its persistence. But the influence of specific invasion of the lacrimonasal canal by the trachomatous process is far from being proved in my experience. True, there is always more or less of an extension by continuity of structure of every inflammatory process of the conjunctiva and nasal mucous membrane, but further than this we have had no observation. The failure of most trachoma operations is usually due to poor judgment on the part of the surgeon as to when and what operation he should perform, and whether he should perform any. As a rule, we are not frank enough with ourselves in this regard. Discussions of this and other points of the treatment, however, are a healthy sign and beneficial to all, especially the patient. The greatest scourge of any person or people is inertia. The freezing by means of carbon dioxid snow, galvanocautery, roentgen-ray and similar treatments in my experience has been comparatively limited. In the radical treatment I am especially well pleased to note the endorsement of Burow's operation—the slitting of the tarsal cartilage. This simple operation is not done sufficiently often, nor has it received appropriate attention in this connection. The section of the cartilage, after the method of Kuhnt-Heisrath, is by far the best operation in the old cicatricial cases, and this I likewise supplement in many cases with canthotomy. However, I do find it wise in many cases to make a few galvanocautery punctures of the dermal lid margins in order to anticipate any entropin that might follow. In the more acute cases I prefer the procedure known as grattage; that is, the scarifying by a three bladed scapel and the violent brushing with a strong solution of mercuric chlorid. The roller forceps operation, while of value, is not to be compared to grattage. The peritomy operation has my approval in cases of pannus, and the operation with the galvanocautery is a very beneficial procedure.

DR. J. M. PATTON, Omaha: We are indebted to Dr. Ziegler for this practical review of the operative situation. I am glad that he emphasized the importance of paying especial attention to the lacrimal drainage. Occasionally we find an empyema of the canaliculus, and all know the harm that can follow an active infection in this region. I want particularly to express my appreciation of the work that Dr. Fox is doing in increasing the efficiency on the care of trachomatous Indians. Contrary to the opinion of some of our Eastern friends, the Indian does not walk the streets of Omaha in his primitive state, but we still see a good many of them who are afflicted with trachoma. Dr. Fox has spoken of the apparent irresponsibility of these Indian patients. They will come to us promising that they will stay as long as they need to, but about the third day they will say, "Going home," and they go. One agent has settled this situation to a certain extent by furnishing the patient with only enough money to reach Omaha. When we wire the agent that the patient is able to go, he sends the money for hospital and traveling expenses. Consequently we have been able to get some results in these cases. We have found the agency physicians and nurses very willing to cooperate in the follow-up of these cases. As has been said here, unless these cases are followed up they are liable to have recurrences, no matter how skilfully we may carry out our procedures at the time we see them. I feel that we as ophthalmologists can be of a great deal of help to these physicians and nurses, we who are adjacent to the agencies, in their endeavors to take care of their clientele. I heartily agree with Dr. Stalberg that this is not an Indian question alone, but very intimately affects his white neighbor; and, if we are to control trachoma, the Indian must be given very careful consideration.

DR. G. W. WALKER, Fresno, Calif.: One thing that has impressed me is that we do not seem to have any trachoma in the San Joaquin Valley of California except that which comes from elsewhere. I have seen trachoma there in families who had brought it from other parts of the world, living in most unhygienic surroundings, but no children reared in those fam-

ilies in California contracted the disease. We have trachoma brought there by the Armenians and by people from east of the Rocky Mountains, from the Mediterranean region, from Russia and Prussia and other places. Many cases sent to me as trachoma prove, on examination, to be simply folliculosis. My experience with the Indians is limited. We have a few Digger Indians, but I do not recall any trachoma. I have had no experience with southern California Indians. South of the Tehachapi Mountains is a very different part of the country from ours, and the Indians there are of a different tribe.

DR. D. D. MCHENRY, Oklahoma City: I have been practicing medicine for twenty years in Oklahoma, treating much trachoma among Indians and some little among the whites. I appreciate what Dr. Fox has been doing among these Northwest Indians, and I sincerely hope that a sufficient appropriation is allowed so that a large enough salary to attract a good man will be available. The first man who came to Oklahoma had a salary of $1,500 a year. What sort of man could one expect for that price? We are seeing some of the results of his work yet. Many a time follicular conjunctivities is mistaken for trachoma. This man reported that 40 per cent. of the white children in the schools of one of our cities had trachoma, but most of these cases, when examined by men of experience, were found to be follicular conjunctivitis and not trachoma. That report has been sent everywhere, and I want to deny it. There is very little trachoma among the white people in Oklahoma. As far as surgery is concerned, I go further than Dr. Ziegler. We must get the trachoma bodies in the conjunctiva and in the caruncle. If we do not, we shall not get results. I think we can do more in thirty minutes with surgery in trachoma than in a year with drugs. After removal of the trachoma body by grattage and expression we scrub the lids with 1:500 mercuric chlorid, and we have not found a case of trachoma we could not cure. However, one operation will not cure it. One can remove all the trachoma bodies of any size, and probably destroy most of the infection, but there will be some few bodies too small to see which must be watched for at least a year, and these new trachoma bodies destroyed as they appear.

DR. STEWART B. MUNCASTER, Washington, D. C.: In 1889 I went to Egypt to study trachoma from the standpoint of surgery, and also the regular treatment. I found that the patients in clinics away down in Cairo, as well as in Palestine and Syria, remained very much better and got well much more quickly by the surgical operation. They treated them with the various kinds of general treatments, such as blue stone, but the only treatment that got results, and quickly, was surgical treatment. I am still of the opinion that surgery is the only thing in the way of treating trachoma. A patient was brought to me about two years ago from the naval dispensary, who had been treated out west by various kinds of remedies. This girl was 22 years of age, and when she came into the office she was able to read only the large letters: 20/200 vision in one eye and 10/200 in the other. I told the navy surgeon that an operation was necessary and he asked me to do it. We put her in the hospital and operated, with first grattage of the lids and a canthus operation on both eyes, and then used forceps and put on ointment of mercuric chlorid and cold dressings, and she was out of the hospital in less than three weeks, a perfect cure. She went out west and married, and came back about six months ago saying she had never had any trouble since that operation, and her eyes are perfect.

DR. E. E. HOLT, Portland, Maine: With an iodin vaporizer I am able to drive the vapor of iodin through the lids of the eye and adjacent parts. I then use the high frequency current. Then I invert the lids and apply some preparation of the ductless glands, usually the powdered protonuclein, by a special powder blower made by myself because I never could find one suitable for the purpose. I blow the powder into the tissues of the inverted lids, retrotarsal folds and the inner canthus. If the lacrimal sac is involved, I syringe this out with a solution of the protonuclein powder. With this treatment I am able to cure trachoma with little or no operative intervention.

DR. L. WEBSTER FOX, Philadelphia: This subject has been near to my heart for twenty-five years, ever since I had the Indian children under me at Carlisle, and my students who have gone out have followed the two operations—the grattage or tarsectomy as performed by Dana. I went to Paris to get him to show me how to do it. I deemed this operation preferable to the others proposed and practiced.

DR. S. LEWIS ZIEGLER, Philadelphia: The question of surgery in trachoma is so simple and sane that I do not see why any one should consider it such a terrible proposition. All that I have outlined in my paper can be done inside of from twenty to twenty-five minutes. Rapid dilation is not difficult for any one who can pass a lacrimal dilator, since the technic is exactly the same. If there is a tear-soaked conjunctiva, and one performs rapid dilation, the disturbance will quickly disappear. I always dilate all of my enucleation patients in order to prevent the lacrimal discharge that so frequently accompanies the wearing of a glass eye. In the folliculosis of which Dr. Stucky spoke, the application of carbon dioxid snow will bring relief as quickly as anything that I could recommend. In trachoma there is nothing to compare with its efficiency if there are broad granulations; but if there are rough cicatricial elevations, one should use a cautery point to melt them down. I prefer Knapp's roller operation to grattage, as the former is less destructive to the conjunctiva. The silver stick is not as effective as freezing with a pencil of carbon dioxid. In regard to the dryness of xerosis, naturally one does not have to stretch the tear duct in such a case because these tissues are already atrophic. It is to prevent the disease from reaching that stage that we dilate the tear duct. Dr. Stucky's clientele of "mountain whites" certainly require good food, because they are undernourished; but the Indian does not need that as a rule. He requires a more specific type of treatment, and more radical surgery, since he is usually careless about his after-treatment. There is no reason why every case of trachoma should not be entirely cured, and that is a statement that we should emphasize; in other words, we should stop saying that trachoma is incurable.

MATERNAL MORTALITY IN MASSACHUSETTS

A STUDY OF NINE HUNDRED AND EIGHTY-FOUR DEATHS IN THE PUERPERAL STATE *

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This paper is intended to give the results of a study of all the deaths occurring in Massachusetts during the years 1922 and 1923 among women six months or more pregnant, from causes immediately related to pregnancy or childbirth, or from causes in which pregnancy or childbirth was a controlling factor. Certain facts should be emphasized at the beginning.

1. This paper is not intended as a general discussion of mortality in the puerperal state, though it is hoped that the facts presented will be useful as a source of information on which such a discussion could be based in part.

2. No attempt is made to compute mortality rates from these figures. They are not complete, since deaths of women dying before the sixth month of gestation are not included and since deaths occurring after one month post partum are excluded. It was found impos-

* From the Division of Hygiene, Massachusetts Department of Public Health.

* This is only a preliminary study and certain other more intensive studies are in progress, based on the material used here. These studies will include topics such as septicemia and toxemia, primiparas and operative delivery other than cesarean section. Certain other partial studies already have been completed and published in the Commonhealth, the quarterly magazine of the Massachusetts Department of Public Health. These have included "Statistical Study of One Hundred Cesarean Sections"; "One Hundred Sudden Deaths," and "Review of Maternal Mortality in Massachusetts in 1922."

sible to approach accuracy with respect to the deaths occurring early in pregnancy; hence, the exclusion of such deaths from our figures.

3. The figures are not comparable to the official figures published by the state registrar of vital statistics who, of necessity, is confined to the returns given on the death certificates. Our figures are based on an intensive study of the facts gained not only from the death certificates but also from personal conferences with the attending physicians and hospital authorities, and in some cases, with members of the deceased person's family. On the other hand, the registrar's figures contain some deaths which ours do not; namely, those occurring in the early months of gestation.

4. Deaths occurring during the puerperal state from certain complications, such as heart disease, acute infections and a miscellaneous group, are included in our figures. They would not be included in similar figures compiled in England and Wales. It seemed fair, however, to include them in this case, since undoubtedly the existence of the pregnancy was a deciding factor in the causation of death. We have clearly indicated, nevertheless, in the appropriate place, the number of such deaths due to complications, so that the reader can

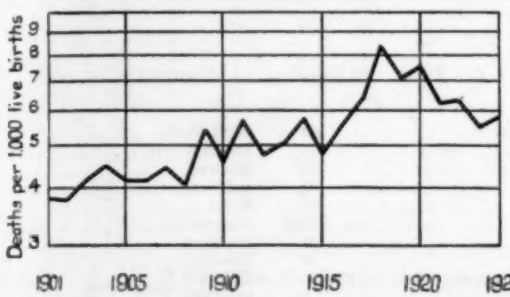

Chart 1.—Maternal mortality in Massachusetts.

see for himself the relation they bear to the whole number of deaths and may make such allowances therefor as he may wish.

5. In approximately 10 per cent. of the cases, our final diagnosis represents a deviation from that given as the primary cause of death on the death certificate. This change in diagnosis is based on the information obtained from the attending physician and the hospital, and a careful study of the whole record.

The method of study was as follows: The work outside the city of Boston was carried on by three physicians on the staff of the Division of Hygiene of the Massachusetts Department of Public Health. The records of deaths occurring in Massachusetts for the years 1922 and 1923 were supplied them by the registrar of vital statistics, together with the facts recorded on the death certificates, as signed by the attending physicians. The deaths occurring in the city of Boston (277) were investigated by the Boston Health Department, which has kindly allowed us to incorporate its results into the general state figures. In this state-wide study only those deaths were included which occurred in women six months or more pregnant, and those which occurred within one month after delivery. It was found necessary to reject certain others as well; namely, cases in which the cause of death bore no particular relationship to pregnancy or childbirth, such as automobile accidents and multiple burns.

The physicians making the study, having the information given by the death certificates in their possession, visited all those who had any special knowledge concerning the cases. This would include, first of all, the attending physician, and then the hospital, if the patient had been delivered or died at the hospital; and in certain instances, visits were made to the homes to get informa-

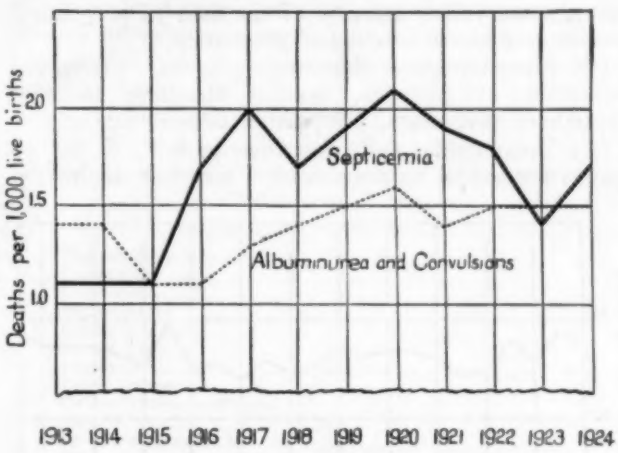

Chart 2.—Causes of maternal mortality in Massachusetts.

tion regarding the social condition of the family in which the death occurred.

Some of the deaths were located not through maternal death certificates but as incident to a study of infant deaths.

This statement of our method of study, and difficulties in relation thereto, brings us to the need of defining clearly what we mean by the terms which we are using in this paper.

(*a*) Deaths in the puerperal state: A death occurring in the case of a woman six months or more pregnant from some cause directly related to or seriously influenced by pregnancy or childbirth. This does not, of course, include all the deaths in the puerperal state

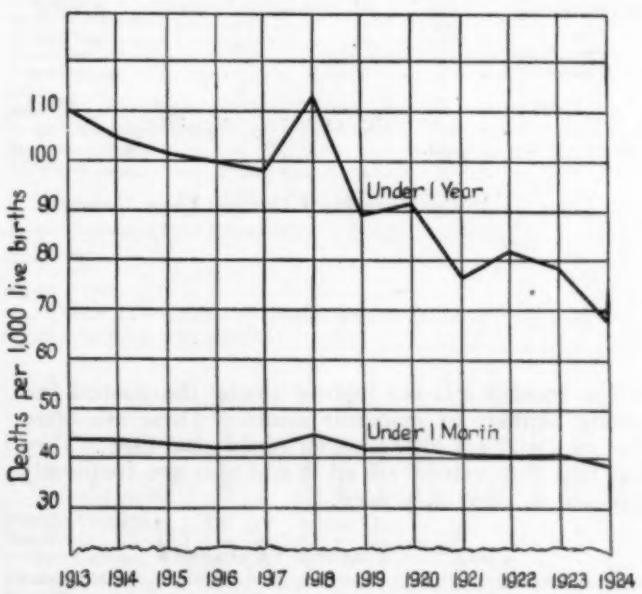

Chart 3.—Infant mortality in Massachusetts.

which might have been found had we included those under six months' gestation.

(*b*) Stillbirth: Babies born dead at or after six months' gestation.

(*c*) Premature birth: All babies born alive before full term.

(*d*) Puerperal infection: The following diagnoses: septicemia, peritonitis, salpingitis, septic endometritis, streptococcus infection, pyemia, phlebitis.

(*e*) Toxemia: The following terms appearing on death certificates: eclampsia, toxic vomiting of pregnancy, acute yellow atrophy of the liver in pregnancy, uremia, convulsive toxemia of pregnancy.

(*f*) Hemorrhage: Placenta praevia, premature separation of placenta, uterine bleeding, bleeding throughout pregnancy, postpartum hemorrhage.

(*g*) Preventable and nonpreventable: It is, of course, impossible to draw a hard and fast distinction

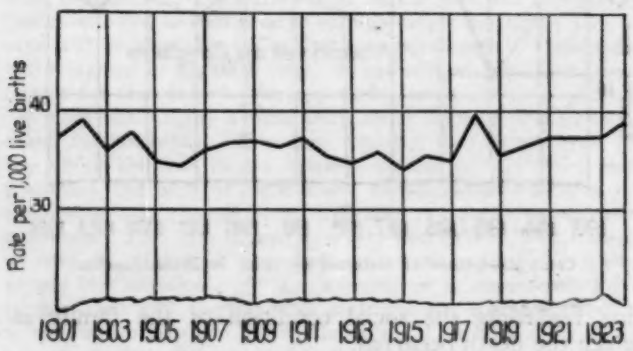

Chart 4.—Stillbirths in Massachusetts.

between these two terms, since many causes which theoretically are preventable often are not practically so, under ordinary circumstances. We, however, are arbitrarily including under the term potentially preventable the following: toxemia; puerperal infection; communicable diseases, such as scarlet fever; neglected hemorrhage at any time during pregnancy or following delivery.

TABLE 1.—*Weekly Income*

Weekly Income	Total
Low	285
Fair or good*	625
Unknown	74
Total	984

* $30 up, fair or good.

TABLE 2.—*Mothers Employed Outside Their Homes*

1922	28
1923	30
Total	58

The mortality is not highest among the poorest but among mothers of moderate means. These are often the ones who get little nursing or hospital care. They feel that they cannot afford it and also are frequently ignorant of what they need.

TABLE 3.—*Occupation of Husband*

Clerical	87
Labor, unskilled	212
Labor, skilled	406
Professional	38
Selling	109
Army and navy	7
Student	10
Unemployed	4
Unknown	120
Total	984

TABLE 4.—*Number and Place of Delivery of Single Mothers*

Year	Home	Hospital	Total
1922	1	10	11
1923	5	17	22
Total	6	27	33

TABLE 5.—*Deaths Arranged According to Birthplace of Patient's Mother*

America (colored, 14)	264	Albania	4
Ireland	198	Norway	4
Canada	152	Newfoundland	3
Italy	74	Armenia	3
Russia	46	Denmark	3
England	32	Belgium	2
Portugal	27	Syria	2
Poland	26	Holland	2
France	25	Austria	2
Scotland	20	West Indies	2
Sweden	16	Cape Verde Islands	1
Germany	10	Switzerland	1
Greece	8	Spain	1
Lithuania	6	Turkey	1
Finland	6	Unknown	43
Total			984

TABLE 6.—*Deaths According to Birthplace of Patient*

United States	584	West Indies	3
Canada	95	South America	3
Ireland	70	Norway	3
Italy	63	Belgium	2
Russia	32	Syria	2
Poland	23	Austria	2
Portugal	17	Denmark	2
England	14	Armenia	2
Scotland	10	Holland	2
Sweden	8	Turkey	1
Greece	8	Switzerland	1
Lithuania	7	Spain	1
Newfoundland	5	France	1
Finland	4	Mexico	1
Germany	4	Unknown	1
Albania	4		
Total			984

TABLE 7.—*Midwives*

Year	Number Mentioned
1922	14
1923	8

Midwives evidently did not play an important part in this series of deaths.

TABLE 8.—*Month of Pregnancy and Cause of Death*

	Months of Pregnancy					
Cause of Death	6 Mo.	7 Mo.	8 Mo.	9 Mo.	Unknown	Total
Puerperal infection	9	11	9	190	4	223
Toxemia	17	45	[illegible]	113	8	217
Acute infections	12	26	21	77	4	140
Hemorrhage	9	15	25	75	6	129
Embolism	3	7	7	80	..	97
Heart disease	5	5	7	30	2	49
Shock	..	..	..	35	1	36
Nephritis	4	8	4	8	2	26
Acute dilatation of heart	..	1	4	14	..	19
Intestinal obstruction	1	3	..	10	..	14
Ruptured uterus	2	1	..	6	..	9
All others	8	..	..	17	..	25
Totals	70	129	113	655	26	984

TABLE 9.—*Acute Infections Included*

Pneumonia	112
Tuberculosis	16
Scarlet fever	6
Erysipelas	2
Streptococcus infection (extra-uterine)	1
Septic sore throat	1
Septic hand	1
Diphtheria	1
Total	140

Hemorrhages in sixty-seven cases were antepartum and in sixty-two were postpartum. Thirty-nine patients were known to have had heart disease during pregnancy; eight were not known to have had heart disease during pregnancy; in two cases it could not be ascertained from the history.

TABLE 10.—*Age and Number of Pregnancies*

Number of Pregnancies	Age: Under 20	20-24	25-29	30-34	35-39	40+	Unknown	Total
1	33	120	106	62	30	9	2	370
2	7	29	48	49	25	3	..	159
3	1	12	27	37	26	11	1	115
4	1	7	14	27	27	9	1	86
5	..	..	12	22	16	9	..	59
6	..	..	9	25	14	9	..	57
7	..	..	1	10	14	12	1	38
8	..	..	..	5	9	10	..	24
9	..	..	1	3	9	2	..	15
10	..	..	..	1	8	5	..	14
11	..	..	..	2	7	5	..	14
12	..	..	..	..	5	3	1	9
13	..	..	..	1	2	2	1	6
14	..	..	..	1	1	1	..	3
15	..	..	..	..	1	1	..	2
16	..	..	..	..	..	..	..	..
17	..	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..	..
19	..	..	..	..	..	1	..	1
20	..	..	..	..	..	1	..	1
Unknown	..	1	2	4	4	..	..	11
Totals	42	169	217	249	207	93	7	984

These mothers died in the prime of life when their growing families had the greatest need of them.

TABLE 11.—*Fate of Baby*

Undelivered	33
Living	506
Stillborn	289
Died under 1 month	116
Died at 1 month or over	25
Unknown	15
Total	1,003

Nineteen pairs of twins.

Of the 1,003 babies who were born to the 984 mothers, 289 were stillborn and 141 died early, a total loss of 430 infants which, added to our maternal deaths, makes a total loss of life in connection with pregnancy and childbirth, of 1,414 (Tables 10 and 11).

TABLE 12.—*Place and Method of Delivery*

	Spontaneous	Operative	Unknown	Total
Delivered in hospital:				
Emergency	61	234	2	297
Routine	79	224	..	303
Unknown	2	2	1	5
Total	142	460	3	605
Delivered at home, but died in hospital	55	25	4	84
Delivered and died at home	130	107	5	242
Totals	327	592	12	931
No delivery *	..	..	..	53
Totals	327	592	12	984

* Thirty-four of these patients died in a hospital.

One noticeable fact in connection with delivery is the large number of mothers known to have been delivered in hospitals (Table 12), nearly two thirds, all told (615). Over half of these mothers (349) were emergency hospital cases rushed in, for the most part, after serious complications had arisen, so that the apparently high mortality of those having hospital delivery is easily comprehended.

TABLE 13.—*Reason for Sending Patient to Hospital After Delivery at Home*

Puerperal infection	48
Convulsions	6
Pneumonia	5
Hemorrhage	5
Ruptured uterus	3
Uremic coma	2
Psychosis	2
Pelvic abscess	2
Twisted pedicle, cyst of ovary	1
Anemia	1
Inversion of uterus	1
Influenza	1
Scarlet fever	1
Heart disease	1
Toxemia	1
Traumatic ileus	1
Tuberculous peritonitis	1
Gangrene of leg	1
Precipitate delivery on way to hospital	1
Total	84

TABLE 14.—*Cause of Death and Method of Delivery of the Two Hundred and Forty-Two Patients Who Were Delivered and Died at Home*

	Spontaneous	Operative	Unknown	Total
Puerperal infection	19	18	2	39
Toxemia	11	19	1	31
Acute infections	44	12	..	56
Hemorrhage	15	20	..	35
Embolism	24	9	..	33
Heart disease	7	7	1	15
Shock	..	13	..	13
Nephritis	4	..	1	5
Acute dilatation of heart	1	3	..	4
Ruptured uterus	..	3	..	3
All others	5	3	..	8
Totals	130	107	5	242

TABLE 15.—*Cause of Death and Method of Delivery*

Cause of Death	Spontaneous	Forceps, Low	Forceps, Middle	Forceps, High	Version	Version and Forceps	Cesarean Section	Other Operative Procedure	No Delivery	Unknown	Total
Puerperal infection	87	15	9	25	15	5	53	9	..	5	223
Toxemia	48	11	11	22	34	3	54	6	24	4	217
Acute infections	85	12	2	8	6	1	13	6	7	..	140
Hemorrhage	25	5	5	9	40	10	18	10	6	1	129
Embolism	43	10	6	8	5	1	16	3	5	..	97
Heart disease	17	5	..	4	4	1	7	5	5	1	49
Shock	1	2	..	10	6	9	5	2	1	..	36
Nephritis	8	..	..	2	2	..	7	3	3	1	26
Acute dilatation heart	3	3	1	1	..	..	10	1	..	..	19
Intestinal obstruction	..	..	..	..	..	1	13	..	..	..	14
Ruptured uterus	..	1	..	3	1	1	2	1	..	..	9
All others	10	1	..	..	2	1	6	3	2	..	25
Totals	327	65	34	92	115	33	204	49	53	12	984

Of the 984 cases, 592 were associated with operative intervention.

TABLE 16.—*Cesarean Sections*

	Number	Per Cent.
Operation done as an emergency measure	133	65
Operation not an emergency	71	35
Totals	204	100

TABLE 17.—*Length of Time Mothers Lived After Delivery*

Died	Number
On day of delivery	280
During first week	642
During first two weeks	788
Before thirty-two days	984

Maternal mortality is highest during the first week after delivery, about two thirds of the deaths occurring during this time. (This may be compared with infant mortality, which is highest during the first week of life.) In the large group of "early" maternal deaths, nearly one half of the patients died the day of delivery.

TABLE 18.—*Necropsies and Cause of Death*

Puerperal infection	11
Toxemia	5
Hemorrhage	3
Heart disease	3
Intestinal obstruction	3
Embolism	3
Pneumonia	2
Scarlet fever	1
Syphilis	1
Nephritis	1
Ruptured lung	1
Surgical shock	1
Total	35

TABLE 19.—*Number of Living Children These Mothers Left*

Number of mothers	984
Number of children left by these mothers	2,156

Many homes were broken up by the mother's death. Obviously, the large group of motherless children stand handicapped in environment under these conditions, and add greatly to the serious and far-reaching consequences of maternal mortality.

TABLE 20.—*Prenatal Care: Number of Months and Type of Care*

	Type of Care				
Number of Months	Urinalysis	Blood Pressure	Vaginal or Rectal Examination	Pelvic Measurements	No Examinations
"Some prenatal care"	11	5	6	4	4
Less than 1 month	43	25	11	15	6
1 month	46	28	13	23	6
2 months	58	38	13	32	3
3 months	92	72	30	46	2
4 months	52	46	19	32	3
5 months	43	42	18	31	2
6 months	81	69	34	50	1
7 months	48	50	16	32	3
8 months	96	87	32	65	2
Totals	570	462	192	330	32

The standard used was the so-called "Grade A" care; that is, (1) monthly visits to clinic from fifth through ninth month of pregnancy, or supervision by private physician from fifth through ninth month; (2) monthly urinalysis from fifth through ninth month; (3) at least an abdominal examination; (4) pelvic measurements, if a primipara. In this series only 107, or 11 per cent., of the patients had received the standard care.

TABLE 21.—*Cause of Death of Primiparas and Multiparas*

Cause of Death	Primiparas	Multiparas	Unknown	Total
Puerperal infection	101	119	3	223
Toxemia	99	117	1	217
Acute infections	42	96	2	140
Hemorrhage	23	105	1	129
Embolism	41	56	..	97
Heart disease	15	32	2	49
Shock	14	21	1	36
Nephritis	8	18	..	26
Acute dilatation of heart	8	10	1	19
Intestinal obstruction	6	8	..	14
Ruptured uterus	..	9	..	9
All others	13	12	..	25
Totals	370	603	11	984

TABLE 22.—*Prenatal Care and Cause of Death*

	Prenatal Care											
Cause of Death	None	Some	Less than 1 Month	1 Month	2 Months	3 Months	4 Months	5 Months	6 Months	7 Months	8 Months	Unknown	Total
Puerperal infection	76	4	7	12	9	26	16	8	19	15	26	5	223
Toxemia	79	2	23	18	15	22	9	11	15	5	17	1	217
Acute infections	61	2	8	7	7	9	8	8	13	6	9	2	140
Hemorrhage	53	5	6	4	8	12	5	4	9	8	13	2	129
Embolism	24	1	1	2	11	8	7	6	14	10	12	1	97
Heart disease	14	1	2	2	5	8	2	1	2	4	6	2	49
Shock	12	..	1	1	2	6	3	..	3	..	7	1	36
Nephritis	9	2	3	2	1	1	1	..	1	4	1	1	26
Acute dilatation of heart	3	..	..	2	2	..	1	2	2	1	5	1	19
Intestinal obstruction	4	..	..	2	1	2	..	1	2	..	2	..	14
Ruptured uterus	3	..	..	2	..	1	2	..	..	1	..	..	9
All others	10	..	..	3	1	3	1	4	2	1	..	..	25
Totals	348	17	51	57	62	98	55	45	82	55	98	16	984

CONCLUSIONS TO BE DRAWN FROM THIS STUDY

From this study of almost 1,000 maternal deaths, certain conclusions may be drawn as to the quality of obstetric service, including prenatal care.

It must be quite evident that with such a large percentage of the deaths due to infection and toxemia, more intense medical service is needed. The part that prenatal care plays in the prevention of toxemia is sufficient evidence of this. Over 52 per cent of our cases had less than three months of so-called prenatal care. Moreover, we know that much that passes for prenatal care is unworthy of the name. Thirty-five per cent. had no prenatal care at all. If we accept the standards given by Woodbury of the Children's Bureau as constituting Grade A (Table 20) prenatal care, which involved adequate oversight from the fifth through the ninth month of pregnancy, then 89 per cent. of our cases did not have adequate prenatal care. Furthermore, it is obvious that even Grade A care is far from ideal, since supervision should begin at the earliest possible period of pregnancy.

When we turn to the handling of the confinement itself we find puerperal septicemia, a preventable disease, still sharing with toxemia, another preventable disease, the first place on the list of causes of death. With all the modern facilities, we should naturally expect to see a greater drop in deaths from all preventable causes. It is a matter for serious concern that such a drop is not to be seen even after making all reasonable allowance for better reporting and greater accuracy in diagnosis, as well as for changes in methods of reporting deaths. There is encouragement, however, in the fact that the death rate for septicemia, formerly on the upward trend, during the last three years has shown a downward tendency, as has the death rate from all diseases caused by pregnancy and confinement since the 1918 high peak caused by the influenza epidemic.

It may well be asked, What can public and private initiative do to remedy the shortcomings this study has emphasized? These data tell us only about the handling of the unsuccessful pregnancies; they do not give us the facts as to the successful pregnancies, so that we do not know exactly how to gage the relative importance of the methods employed in the successful cases.

There are, however, experiments which point the way to the answer. Various organizations in this country have had enough experience with prenatal care to be able to draw reasonable conclusions. The most striking effect has been on the neonatal mortality, which has been reduced as much as 50 per cent., apparently as the result of prenatal care. Reduction in the number of stillbirths has occurred in some instances, though this is a less constant result. The maternal mortality has also been noticeably less when adequate prenatal care has been given. Those interested in studying these facts will find material in the reports of the Maternity Center in New York; of the Association for Improving the Condition of the Poor, New York; of the Community Health Association of Boston, and of public and private clinics in many of the large cities of this country.

If this adequate prenatal care is to be given with its attendant saving of life, there must be cooperation to this end between physician and patient, since neither is wholly responsible for either success or failure. A further campaign of education as to the value of prenatal care seems to be indicated.

SUMMARY

Certain outstanding facts are evident from this study of 984 maternal deaths in Massachusetts:

1. Septicemia, toxemia and hemorrhage, causes of death which may be called generally preventable, were responsible for 58 per cent. of the deaths.

2. The part played by operative intervention with labor cannot be shown statistically from this series of cases, since records are not available as to the total number of operations performed with and without success. A clear impression was gained, however, by our physicians, during the course of this study, that many thoughtful general practitioners have come to the conclusion that this factor of operative intervention is of considerable importance in the total of unfavorable results, even after making allowance for the cases inevitably operative from the beginning. In 591 of our series of 984 cases, operative procedures figured.

3. Lack of adequate prenatal care was evident in 89 per cent. of the cases.

4. Poverty as a cause of maternal mortality did not stand out in this series of cases.

5. Twenty-five per cent. of the mothers who died were Americans; that is, their mothers were born in the United States. This factor counts for little, however, since we do not know the racial distribution of all pregnancies in the years in question.

Atypical Temperament.—In my experience abnormal disposition is the most frequent, as also the most subtle, sign of a nervous constitution. It includes not the strong and good traits of the make-up of the individual, which count toward his efficiency as a personal and as a social unit, but the weak points of his armor for the battle of life, points, moreover, which are sufficiently marked to count as distinct traits or characteristics of his personality. The strong and the weak points are often combined in the faddists, cranks and fanatics of society, and in others with minor mental twists. Abnormal disposition shows itself in very many forms.—Easterbrook, C. C.: Mental Invalids, London, Oliver and Boyd, 1925.

PROTEIN AS AN ADJUNCT IN THE TREATMENT OF RESISTANT SYPHILIS*

RUSSELL D. HERROLD, M.D.
CHICAGO

There are patients with syphilis who show only a slight reduction in the Wassermann reaction under the usual drug therapy. As the Wassermann test is considered the most important criterion of the benefit of treatment in latent and inactive syphilis, this type of patient is classified as resistant or Wassermann-fast. The serologic reaction, however, must not be taken as the only test of cure.

An analysis was made during the World War of a series of patients who had been given the routine treatment of neo-arsphenamin intravenously and mercurial oil intramuscularly. The patients were adult males in the same age period, with similar conditions of life, and would seem to be a particularly good control group, since they received regular and routine series of injections. As indicated in Table 1, the best results

TABLE 1.—*Comparison of Wassermann Reaction in Different Stages of Syphilis with Similar Treatment*

Type of Syphilitic Infection	Reaction After First Course	Reaction After Second Course	Reaction After Third Course
Early primary; Wassermann reaction negative; dark field positive	2 positive, 17 negative	1 positive, 18 negative	0 positive, 19 negative
Late primary and early secondary; Wassermann reaction positive	34 positive, 41 negative	9 positive, 66 negative	5 positive, 70 negative
Tertiary; Wassermann reaction positive	19 positive, 4 negative	13 positive, 10 negative	9 positive, 14 negative

were had in the class diagnosed early by a positive dark field while the Wassermann test was still negative. Seventeen had a second negative Wassermann reaction one month after the first course, and two had a plus-minus reaction. The late primary and early secondary syphilitic patients in whom the Wassermann test was positive before treatment had thirty-four positive and forty-one negative reactions one month after the first course. There were twenty-three patients presenting a latent or inactive form of the disease; in eighteen, a definite history could be obtained with an average duration of five and one-third years. There were four negative reactions and nineteen positive reactions after one course. Nine were still slightly positive after three courses and are therefore of the resistant type, and similar to the cases now under consideration. Kyrle [1] has emphasized the value of combined protein and antisyphilitic drug medication. Greenbaum and Wright [2] have reported a favorable influence on the course of syphilis by the intramuscular injection of milk protein, with marked clinical improvement under this treatment alone. The injections were made at intervals of two or three days, and a series of six or more treatments were given before the beginning of drug therapy.

The use of protein in the present series of patients with latent syphilis has been preceded by three courses of neo-arsphenamin intravenously, mercuric chlorid intramuscularly and potassium iodid by mouth. The

* From the John McCormick Institute for Infectious Diseases.

1. Kyrle, J.: Fieber ein wesentlicher Heilfactor in der Syphilistherapie, Wien klin. Wchnschr. **30**: 707-712 (June 1) 1917.

2. Greenbaum, S. S., and Wright, C. S.: Effects of Nonspecific Protein Therapy in Syphilis, Arch. Dermat. & Syph. **10**: 551-556 (Nov.) 1924.

neo-arsphenamin was given twice a week until eight injections were made and then followed by from twelve to eighteen intramuscular injections of 1 grain (0.06 gm.) of mercuric chlorid at intervals of three and four days. The patients with no appreciable change in the Wassermann reaction after three courses were therefore Wassermann-fast, and were given protein therapy.

TABLE 2.—*Wassermann Readings Before and After the Use of Protein*

Case	Duration of Infection	Stage of Syphilis	Wassermann Reaction Before Treatment	Wassermann Reaction After One Course	Wassermann Reaction After Two Courses	Wassermann Reaction After Three Courses	Wassermann Reaction One Month After Course with Protein	Wassermann Reaction Seven Months After Course with Protein
1	18 yr.	Tertiary	4+	4+	4+	4+	±	0
2	8 mo.	Late secondary	4+	4+	4+	2+	0	0
3	Unknown	Tertiary	4+	4+	4+	4+	0	0
4	10 yr.	Tertiary	4+	4+	4+	4+	0	..
5	15 yr.	Tertiary	4+	4+	4+	4+	2+	..
6	7 yr.	Tertiary	4+	...	...	4+	0	0
7	6 yr.	Tertiary	4+	...	...	4+	+	..
8	8 yr.	Tertiary	4+	...	...	2+	0	..

One lot of gonococcus protein was used throughout these observations. It consisted of a clear extract of the gonococcus in physiologic sodium chlorid solution in strength of 500 million per cubic centimeter. From 15 to 20 minims (0.9 to 1.25 c.c.) was given intramuscularly in the gluteal region with very little local reaction and no unusual general disturbance when followed by neo-arsphenamin intravenously. Four injections were given at intervals of three days and five days; after the last injection the combination therapy of neo-arsphenamin intravenously and protein intramuscularly was begun and was continued twice a week during a course of eight treatments. It was thought that the stimulation with microbic products which consist of protein as well as toxins would simulate more closely a specific reaction than milk protein.

As noted in Table 2, all the patients had been given two or three courses of treatment without any decided change as indicated by the ordinary nonquantitative Wassermann reaction, which represents the type reaction of about one third of the latent infections undergoing treatment. The Wassermann reaction has been negative or markedly reduced in degree in every instance after one course with the addition of gonococcus protein intramuscularly to the previous routine of treatment. Four patients who have been followed for seven months have remained serologically negative. Several have gained in weight, and their general condition is apparently improved. The lymph nodes have decreased in size under this combination treatment; and, since the lymph glands are frequently foci of latest spirochetes, it may be that the lymphocytic stimulations from the injection of a bacterial extract aid in the eradication of the resistant focus of inactive syphilis. It is well known that a larger percentage of secondary syphilis will become Wassermann negative than that of tertiary and latent syphilis with the same amount of treatment. The number of spirochetes in the lymph glands and other organs are many times greater during secondary than during tertiary syphilis. The liberation of more microbic products during the treatment of secondary syphilis with this added stimulation may have some relation to more effective treatment. Clinically, reactions of chills, fever and intestinal disturbance are more likely to occur in secondary syphilis after the injection of neo-arsphenamin than in tertiary syphilis, and in florid secondary syphilis the initial injection of neo-arsphenamin is often followed by a reaction very similar to that following an intravenous injection of the extract of gonococcus or other bacteria in the nonsyphilitic patient.

There is a general impression that neurosyphilis is not as frequent in those who have had a definite secondary rash. It would seem logical, if this is true, that some form of combined protein and drug therapy might lessen the incidence of later neurosyphilis in those patients with an absence of secondary lesions, and some additional treatment would be worth while since it is generally believed that there has been an increase in the percentage of neurosyphilis since the advent of arsphenamin therapy.

As this series of patients has not been observed longer than seven months, it cannot be said that later relapses may not occur; but the rapid response to the protein is distinct enough to warrant further use.

CONCLUSIONS

The injection of gonococcus protein intramuscularly in combination with neo-arsphenamin intravenously exerts a favorable influence on the reduction of the Wassermann reaction and on the clinical course, particularly the adenopathy. There is no deleterious action with the simultaneous use of the two methods of treatment.

7 West Madison Street.

Special Articles

REPORT OF COMMITTEE ON LYE LEGISLATION

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY, AMERICAN MEDICAL ASSOCIATION *

Your committee begs leave to report the passage, since our previous reports, of legislation providing for the proper labeling of household lye in the following states: Iowa, Vermont, Oregon, Nevada, New Hampshire, Colorado, Louisiana and Minnesota. This has been accomplished through untiring efforts of individual members of this committee in the respective states, to convince legislators of the need of such legislation. The following men deserve special mention for the successful work in their respective states: Dr. L. W. Dean, Dr. E. T. Brown, Dr. Ralph A. Fenton, Dr. J. Andre Fuller, Dr. Frank E. Kittredge, Dr. T. E. Carmody, Dr. Robert C. Lynch, and Dr. Horace Newhart. Equally good and hard work was done in other states, in which final passage was defeated in a number of ways that could not be adequately met, notwithstanding utmost efforts of the members in the respective states. But in all these states a good groundwork has been laid for ultimate success. With legislation previously reported as obtained in Pennsylvania, New Jersey, Florida and South Carolina, there are now in line twelve states. This should make future work easier, and no doubt is felt by your committee as to the ultimate outcome.

In justice to the packers of lye preparations, every effort has been made to obtain uniformity in the specifications as to the form of label. With this in view, a model bill for state enactment was drawn by Dr. W. C. Woodward of the Bureau of Legal Medicine and Legislation, American Medical Association,

* Read before the Section on Laryngology, Otology and Rhinology at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

and is being followed. We believe that the best means of securing uniformity is by federal legislation, which also seems necessary from many other points of view.

A bill following the lines of the model bill of Dr. Woodward was introduced into the United States Senate by Hon. George Wharton Pepper, and a companion bill was introduced into the House of Representatives by Hon. W. W. Griest. Unfortunately, owing to the enormous amount of business before Congress, these two bills were among the hundreds not reached. We are assured of an early start at the next session of the federal Congress, and owing to the untiring efforts of Dr. Woodward to meet all reasonable objections raised by commercial interests affected, we now have assurance of hearty cooperation with us by these interests.

Thanks are due to Hon. George Wharton Pepper and Hon. W. W. Griest for efforts to obtain federal legislation; to Hon. S. E. Winslow for unfailing courtesy and kindly consideration, and to Dr. William C. Woodward for wise counsel and successful solution of the intricate problem of drafting model bills to secure the protection of the public welfare with a minimum of trouble to commercial interests.

Respectfully submitted.

CHEVALIER JACKSON, Chairman.
WILLIAM B. CHAMBERLIN, Secretary.

REPORT OF COMMITTEE ON PROPOSED INTERNATIONAL CONGRESS FOR CONSERVATION OF VISION *

All properly organized and directed movements and efforts that have for their object the saving of sight are to be approved and should have the support of ophthalmologists. While, generally speaking, therefore, an international congress for the consideration of the subject of conservation of vision, so called, is to be commended and should receive the approval of the section, it is the opinion of your committee that the time is not yet ripe for such an undertaking.

The conservation of vision movement, embracing, as it does, not only all that is included in the science of ophthalmology but also all that relates to the subject in an educational, commercial and broadly social sense as well, has not yet been developed and crystallized in this country, at least, into a position where international cooperation could be successfully accomplished.

As a first step toward the holding of such a congress, your committee would suggest that the National Committee for the Prevention of Blindness take the initiative by making a survey of the leading organizations, both in this country and abroad, which are engaged in any form of endeavor to conserve vision, and that this body should act as a clearing house in the matter and should perfect measures to bring as many of the existing organizations into harmonious cooperation as may be possible or prove desirable.

The National Committee for the Prevention of Blindness is well adapted to take the lead in such an undertaking, being controlled by a board of responsible men and women representing various phases of professional and business life, and with ample financial resources.

This section should give assurance to the national committee of its willingness to cooperate and aid in the movement so far as it may be able.

In the event that the national committee agrees to assume the lead in this movement, the suggestion is offered that it empower a representative to present the subject before the approaching congress in London with a view to acquainting all English speaking ophthalmologists with the project, and to pave the way, as it were, for a conference or congress on visual conservation at some later date.

WILLIAM CAMPBELL POSEY, M.D., Chairman.
LUCIEN HOWE, M.D.
F. PARK LEWIS, M.D.
WILLIAM HENRY LUEDDE, M.D.

* Read before the Section on Ophthalmology at the Seventy-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., May, 1925.

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS *

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(Continued from page 349)

DIADERMIC ADMINISTRATION

Diadermic administration is not a quick or a direct way of getting medicaments into the circulation, but it secures an evenness and constancy of medication that no other route supplies. The main objection to it is the uncertainty regarding the dosage. Since absorption is much less, the quantity applied is much larger than that which would be used internally. Diadermic administration is useful when action on the alimentary canal is to be avoided, or when it is necessary to push the medicine into the system by all possible routes. The application is made in places in which the skin is thin, as free from hair as possible, and well supplied with lymphatics, as on the flexor surfaces of the body. It is often well to use the various available surfaces in regular sequence; thus, first day, inner surface of left arm; second day, left flank and groin; third day, inner surface of left thigh; fourth, fifth and sixth days, the corresponding surfaces on the opposite side of the body, and then starting over again. This avoids undue irritation at any one point. The more thoroughly the ointment is rubbed in, the better the penetration. Heat and irritants likewise favor absorption. Sweating or preliminary cleansing by means of soap and hot water also help.

The objection that has been leveled against mercurial inunction on the score of the dirty appearance given the skin when the ointment is left in place has been overcome by the "clean inunction," which consists in removing the excess of ointment by means of gasoline, immediately after the conclusion of the rubbing process. It has been shown that absorption and clinical effects are quite as good as when the ointment is left in place. The use of a calomel ointment, on the other hand, to overcome the objectionable color of mercurial ointment has not been found efficient.

COMPOUND SALVE VEHICLES

The following compound salve vehicles present features that make acquaintance with them desirable.

Ointment of lead oleate, formerly known as diachylon ointment, is lead oleate plaster reduced to ointment consistency by the addition of an equal amount of white petrolatum. It is perfumed with 1 per cent of oil of lavender. It is a rather tenacious ointment of eminently soothing qualities, and is useful in acute dermatoses and for the softening of crusts.

Ointment of rose water, or cold cream, is a good example of a cooling salve. It owes these cooling qualities to about 20 per cent of stronger rose water, which is incorporated in a mixture of expressed oil of almond, white wax and spermaceti. The presence of 0.5 per cent of sodium borate must be borne in mind as a possible cause of incompatibility. This ointment is white and of a pleasant rose odor. It is used as a cooling and soothing

* This is the sixth of a series of articles on "The Technic of Medication." When completed the articles will be assembled in book form.

application to irritated and excoriated surfaces, such as chapped lips and hands. Unfortunately, it has a tendency to rancidity; and numerous attempts have been made to enhance its keeping qualities. Indeed, the various commercial cold creams differ from the official rose water ointment in being made from substances that are not liable to rancidity, containing chiefly white petrolatum and liquid petrolatum with wax. As the water of rose water ointment has a tendency to separate on standing, in some commercial cold creams oil of rose and glycerin are substituted tor rose water. However, these changes lessen the soothing properties and do away with the cooling qualities for which this ointment is largely employed. Hence, a good, recently prepared official rose water ointment is often preferable to a commercial cold cream. A note of warning must be sounded against the so-called vanishing or "greaseless cold creams," which of late have become quite popular. Strictly speaking, these are not cold creams at all, but soaps obtained by a reaction between stearic acid and an alkali, chiefly sodium carbonate. Obviously, such a preparation has good detergent qualities and is more efficient than the greasy cold cream for cleansing the skin, but the soothing qualities of a true cold cream have been replaced by the possibility of producing an irritation inherent in soaps.

PASTES

The pastes are doughlike or jelly-like preparations, and they fall under two headings: the fatty or unguent pastes, and the nonfatty or hydrophil pastes.

The fatty pastes are doughlike preparations generally made with an ointment vehicle and containing from 40 to 60 per cent of powder. If a still larger quantity of powder is to be incorporated—up to 70 per cent—an oil must be employed. Pastes are better protectants than ointments, but less penetrating. They resemble cerates in not readily soaking through dressings, but have a slight drying action, owing to the presence of the powder, which the cerates do not possess.

One of the most popular and efficient healing applications for acute dermatitis is Lazar's paste, which contains 25 parts each of zinc oxide and starch and 50 parts of petrolatum, usually medicated with 2 per cent of salicylic acid. A formula for this is to be found in the National Formulary under the name of zinc paste. The paste is applied rather thickly, and the affected part then is dusted with talcum powder to form a protective crust. This paste can be made softer by using 40 per cent of the mixed powders and 60 per cent of petrolatum, or more tenacious by using hydrous wool fat and petrolatum in equal parts as the ointment vehicle instead of the petrolatum alone.

Sulphur zinc paste for chronic dermatitis may be prescribed by adding 20 per cent of sulphur to Lazar's paste, and, to prevent an excess of powder, by reducing proportionately the quantity of the other powder ingredients.

When the skin is so irritated that unguent pastes are too hard, oil pastes may be used. Among these are an oil paste composed of equal parts of zinc oxide and olive oil, and Unna's soft zinc paste (N. F.), composed of equal parts of calcium carbonate, zinc oxide, linseed oil and lime water. The latter is so mild in action that it is tolerated even in the most irritative dermatitis.

The nonfatty pastes are sometimes better borne by diseased skin than the various fatty applications. This is particularly likely to be the case when there is considerable exudation from the skin. The nonfatty pastes are also more cleanly and cooler. Those pastes that contain much glycerin remain moist; the others dry gradually and leave a varnish-like protective film.

The simplest example of such a paste is starch paste, made exactly as laundry starch is prepared. Starch is rubbed with cold water into a smooth cream; and then, while it is being constantly stirred, boiling water is added until the proper jelly-like consistency is secured. By adding a little glycerin, not more than 20 per cent, the paste may be kept from drying. To an acutely inflamed skin, starch paste is the kindliest application for the removal of crusts, and this must always be attended to before any other remedy is applied to the diseased skin. The official glycerite of starch contains too much glycerin (70 per cent) for dermatologic purposes.

A drying paste, useful as a protective varnish on the face in infantile eczema, is Pick's paste, made of 5 parts of tragacanth, 2 parts of glycerin, and 93 parts of water, mixed and heated on the water bath. Such a paste may, of course, be medicated as desired.

Lubricating jellies, for the lubrication of catheters and surgical instruments, or of gloves and finger cots, contain from 1 to 2.5 per cent of tragacanth, 10 to 20 per cent glycerin, and water, usually with the addition of an antiseptic, such as phenol, from 1 to 3 per cent, or mercuric oxycyanide, 1 : 1,000.

Poultices, or cataplasms, are pastes intended chiefly for the application of heat or warmth and moisture to a part of the body. Although fomentations and compresses are nowadays generally used instead of poultices, because they are cleaner, there are still occasions when the old fashioned flaxseed poultice may be usefully put into requisition. One of its special advantages is that it holds heat longer—by reason of the oil contained in it—than almost any one of its modern substitutes.

The preparation of a linseed poultice may be directed as follows:

One stirs the linseed meal into boiling water so as to make a thin dough, spreads this on a piece of cloth up to within about 2 inches of the edge, covers it with a thin piece of muslin, and folds the edges of the cloth over it. The proper temperature of a poultice is that which is just easily borne by the back of the hand. If the poultice is too hot, one may put a thicker piece of cloth over the face of it. To have it retain heat as long as possible, heat loss is counteracted by covering it with some waterproof material, such as oiled silk, and a poor conductor of heat, such as a thick layer of cotton, keeping the whole in place with an appropriate bandage. When the poultice has become lukewarm, another should be in readiness to take its place before it is removed. A poultice may be used again and again simply by reheating it in a double boiler.

In the olden days, teachers of therapeutics were wont to tell their students to remember the two "p's"—pain and poultice. This is just as true today as it was then, if we consider fomentations and compresses as merely modern modifications of the poultice. Even today, many old fashioned persons are much more familiar with poultices and are able to use them more efficiently than their modern substitutes. A use to which poultices have not been put to the degree to which they

probably deserve is suggested by Veiel;[21] namely, for the healing of indolent ulcers. He reports three cases of bad roentgen-ray ulcers cured in a relatively short time, from two to four months, by means of warm poultices employed with the following technic: The poultice is made from linseed meal and milk, boiled until the spoon inserted in the mush will stand up in it. The mush is then wrapped in a double layer of gauze and applied to the ulcer, which has previously been covered with strips of gauze moistened with a boric acid solution. By means of two such poultices, the one being warmed on the water bath as the other one in use commences to cool, this treatment is kept up from early morning till late in the evening. Over night a warm boric acid compress is applied. As a result of the uniform warmth and the hyperemia thus produced, together probably with the moisture, which furnish a favorable culture medium, cell proliferation and with it healing is favored. This treatment is also useful in torpid varicose ulcer.

The cataplasm of kaolin (N. F.), a kaolin glycerin paste, flavored with methyl salicylate and oil of peppermint, and rendered antiseptic by 4.5 per cent of boric acid and 0.5 per cent of thymol, is an example of a substitute for the linseed poultice, which, though it does not hold heat as long as the latter, has the advantage of being nonfermentable, even bacteriostatic, and of clinging to the mastoid or the chest when other similar applications are more difficult to retain in place. The paste is heated on the water bath, is spread rather thickly and as hot as the patient will bear to the affected part by means of a case knife, and is covered with a layer of cotton. The paste sticks to the skin and the cotton sticks to the paste, thus forming a warm covering for the part, which is particularly grateful in the presence of cutaneous hyperesthesia. As this application cannot be conveniently changed until it loosens from the skin by the accumulation of sweat underneath, which occurs usually within twenty-four hours, it can hardly be considered an efficient means of application of heat; it secures merely warmth and moisture and is relaxant rather than stimulant.

EAR MEDICATION

The external ear, including the external auditory meatus, and even the membrane covering the drum head, are epidermal in nature. We have here a fatty surface of a relatively high degree of tolerance to chemical agents, quite analogous to that of the skin. Undiluted alcohol or glycerin may be used without harm, provided no perforation of the drum head exists. Should a perforation into the middle ear be present, the rules relating to mucous membranes rather than dermal therapy must be respected.

Blowing of powder into the meatus (insufflation) has only limited value. It is contraindicated in the discharging ear, as the powder and pus may form a deposit difficult to remove and may dam up the discharge.

Lotions are used by instillation (ear drops), injection or irrigation, or are applied by means of a cotton swab or a gauze strip packed into the meatus. Very cold fluid should never be used. For the instillation of ear drops, the patient turns his head to the side so that the affected ear is uppermost, and he should keep it that way for some time. For ear irrigation, the affected ear is held downward over a vessel to receive the return flow. Ointment is occasionally employed in the ear for dermatitis, but otherwise is contraindicated.

Liquids instilled into the ear are useful for softening or dissolving cerumen, crust, scales and pus and as antiseptics, deodorants, astringents and local anesthetics.

For earache due to acute otitis media, glycerin is very commonly employed in form of ear drops. By its hygroscopic tendency it may cause an exosmotic current from the middle ear and a consequent lowering of pressure in the tympanic cavity, provided the external meatus is kept liberally filled with it. Phenol (5 per cent) is frequently added for its analgesic quality. The drops are usually instilled as hot as can be borne, the hyperemia produced by the heat also having analgesic potency and possibly favoring resistance to the infection as well. It is best to pour the drops directly into the ear, and to keep it filled by having the patient lie down, his head on the side with the ailing ear uppermost. Preliminary prolonged irrigation with water as hot as can be borne and subsequent application of completely wrapped hot flaxseed poultices over the affected ear are valuable adjuncts of treatment. If this regimen does not relieve, incision of the drumhead is usually indicated.

A useful lotion for a discharging ear consists of a saturated solution (4 per cent) of boric acid in alcohol. An ear that has just perforated may not tolerate as strong an alcoholic solution; hence it is well to dilute the lotion—prescribed in full strength—to perhaps one-quarter strength in the beginning, gradually increasing the strength, until the solution is employed in full concentration. It is best to use it on the cotton swabs with which the ear is cleaned. One thing that this treatment certainly accomplishes is the prevention of infection of the discharge and the consequent offensiveness of odor.

These examples will suffice to bring out the great difference that exists between applications suitable for an epidermal membrane and those to be used on mucous membranes, to which attention will next be directed.

(To be continued)

21. Veiel, Fritz: Die Behandlung von Roentgen Geschwüren mit warmen Breiumschlägen, Klin. Wchnschr. 4: 1356 (July 9) 1925.

New and Nonofficial Remedies

ANTISTREPTOCOCCUS SERUM

Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following statement. W. A. PUCKNER, Secretary.

For some years the Council has been questioning the value of antistreptococcus serums. These products have been retained in New and Nonofficial Remedies with the caution that on the basis of clinical reports there is perhaps justification for the use of the serum in streptococcus infections, but that there is no scientific basis for it. To obtain an estimate of the present esteem in which antistreptococcus serums are held by clinicians, Dr. Emil Novak at the request of the Council sent a questionnaire to a number of surgeons, gynecologists and obstetricians. The Council considered the report prepared by Dr. Novak on the basis of the information which he obtained (Report on Antistreptococcus Serum, THE JOURNAL, Jan. 16, 1926, p. 189) and endorsed its publication.

In consideration of the opinions contained in Dr. Novak's report, the Council decided to retain antistreptococcus serum preparations in New and Nonofficial Remedies provisionally.

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SATURDAY, FEBRUARY 6, 1926

HEROISM AND SCIENTIFIC PROGRESS

Again an opportunity has presented itself for the expression of the admiration and gratitude felt by an appreciative mankind to a group of self-effacing persons who have served as test subjects in the governmental study of dengue. The almost cryptic reference to these human volunteers is made in a report of distinguished officers from the U. S. Army Medical Department Research Board in Manila.[1] As if the expected had occurred "in the line of duty," we are told of the military personnel—sixty-four men who "proffered their services voluntarily," for experimentation relating to the transmission of dengue fever by mosquitoes. No mention is made of the possible suffering involved: the initial fever, the slow convalescence with persistent pains, mental depression and marked physical prostration. To the untutored it may be a revelation in this connection to learn that the disease under consideration has been confused with yellow fever in the past. The prospect was therefore scarcely one that would attract a coward or a shirk. Indeed, dengue was actually produced in fifty-one of the sixty-four volunteers who permitted themselves to be bitten by suspected mosquitoes or injected with suspected blood, not for personal gain but to help promote human welfare.

For the proper evaluation of this heroic enterprise, it matters little what discoveries of permanent value arose from the experimenter's devotion.

> Theirs not to make reply,
> Theirs not to reason why.

It was demonstrated, however, that dengue is transmitted by *Aedes egypti* as had previously been suspected, whereas *Culex quinquefasciatus* does not transmit it. The results obtained indicate that the patient is infective to mosquitoes during the first three days of the disease, but that on the third day of an attack the mosquito frequently will fail to pick up the virus. It is demonstrated, furthermore, that subjects in the late prodromal stages of dengue—from six to eighteen hours prior to onset—are infective to *Aedes*. The experimental evidence obtained warrants the statement that once *Aedes egypti* becomes capable of transmitting the virus to human beings, this characteristic is retained throughout the remainder of the mosquito's life. Experimental dengue was produced in three volunteers with mosquitoes that had been infected, respectively, sixty-two, sixty-six and seventy-five days previously. The incubation period of the disease in the forty-seven experimental cases varied from four to ten days, inclusive. For all practical purposes the incubation period may be considered as being from four to six days, inclusive, as it fell within that period in 89 per cent of the experimental cases reported.

Such is the story, briefly told, of the contribution of the soldiers. It is not embellished with references to discomfort or pain. One inevitably recalls martyrs to science who have succumbed to the bite of infected insects: Jesse W. Lazear; Howard T. Ricketts; Arthur W. Bacot. It should be the prayer of all who love their fellow men that experiments on animals be made available when possible to spare the human sacrifice, or at least avert the danger. Let the antivivisectionists and their ilk ponder well this recital. A. H. Smith[2] has fittingly expressed a tribute to our martyrs:

> In the history of progress in medicine we have countless instances of men who have unselfishly spent their efforts in study and tireless experimentations for the advancement of knowledge. And then we have those selfless souls who have given not only their efforts but their lives in the struggle for mastery over ignorance and disease.

A NUTRITIONAL OUTLOOK

The World War served to focus attention in a popular way on the problems of human nutrition to an extent never observed before. The appeal of the United States Food Administration to the nation asserted that all our questions centered in food: its production, its distribution, its use, its conservation. "The more you know about these things," Mr. Hoover exhorted, "the more valuable you will be and the greater will be your service to humanity." During our first year as a belligerent (April 1, 1917, to April 1, 1918) we exported fifteen billion pounds of food—an increase of more than 200 per cent over the prewar average. The food shipped was enough to ration completely more than 21,000,000 men, and to supply a considerable surplus of protein-rich foods and fats besides. Much of this surplus was the result of the saving of the American people. This was done in spite of the fact that the estimated total production of the country for the fiscal year, in terms of nutritional units, was from 7 to 10 per cent below the average of the previous years.

1. Siler, J. F.; Hall, M. W., and Hitchens, A. P.: Transmission of Dengue Fever by Mosquitoes, Proc. Soc. Exper. Biol. & Med. **23**: 197 (Dec.) 1925.

2. Smith, A. H.: Bacot, A Martyr to Science, Sc. Month. **15**: 359 (Oct.) 1922.

It was almost inevitable that under these conditions much thought should be devoted to the nutritive program of the individual as well as the nation. Nothing was to be gained by sacrifice through undernourishment; much hinged on "keeping fit" through proper feeding at a time when customs in diet were being vigorously assailed and "substitutes" were being recommended as a part of war-time economy. Thus, certain conventional "standards" of nutrition, involving the energy, protein, mineral and vitamin intake, began to find widespread acceptance. One cannot read the sales promotion propaganda in the advertising columns of the present day without noting the implication of a widespread education with regard to food values.

Estimates made about two decades ago in New York among the less well-to-do classes indicated that the average cost of adequate nutrition could not be reduced below 20 cents for each person. Accepting 3,000 calories a day as an average individual requirement of food fuel, the cost of 100 calories would approximate $0.007. It might be expected that a college community would afford a fairly representative indication of current food customs wherein one could compare "theory" with "practice" in American dietaries. According to a survey[1] at the Kansas State Agricultural College, Manhattan, among about sixty organizations supplying meals to students the cost per man daily ranged from $0.241 to $0.526, the average being $0.356. The cost per hundred calories averaged $0.0125, and ranged from $0.0088 to $0.0157. It is interesting to note that nutritive return did not necessarily parallel the food expenditure; the five dietaries showing the highest cost per hundred calories had more mineral deficiencies than did the five dietaries showing lowest cost. Such cheaper dietaries, as the investigators pointed out, need not be unsatisfactory in nutritive value or in variety, if skill and care are used in the planning of meals and the selection and preparation of foods. In a month's study of the foods purchased without dietetic supervision, the protein was found to be sufficient and the energy probably adequate. There are some indications that a more liberal substitution of foods to furnish calcium, phosphorus, iron and possibly some of the vitamins might have been advantageous. In any event, if the Kansas studies may be regarded as representative, it is apparent that the food customs of our American youth of collegiate age do not represent wide departures from the essentials of good nutrition. This is an important finding in the light of current complaints of widespread undernutrition among the children of school age in this country. It would be unfortunate, indeed, if "nutrition classes" such as have been widely organized in connection with American primary schools were deemed essential to the youth of a later period when they are nearly ready to begin life's more serious tasks.

1. Kramer, Martha M., and Grundmeier, Edith: Food Selection and Expenditure in a College Community, J. Home Economics **18**: 18 (Jan.) 1926.

THE PHYSICIAN OF THE FUTURE

Time was when the words "state medicine" were sufficient to make any medical leader straighten up in his chair and begin to select the proper vocabulary with which to annihilate the proponent of a state conducted medical service. Indeed, committees of the House of Delegates and that august body itself, resolved into a committee of the whole, debated long and vigorously at two different sessions a proper definition of the term. No doubt the majority of practitioners of medicine today still look on the conception with antipathy. The subject is nevertheless but little discussed in medical periodicals, and it would seem that the ghost has been successfully laid and that agitation of the matter in these columns is merely a reconjuring of a futile shadow. The recent appearance in periodical literature, particularly that in the domain of social medicine, of articles dealing with the relation of the physician of the future to his community, gives an opportunity once more to consider, as the Congressman might say, whither we are drifting.

The president of the Rockefeller Foundation, Dr. George E. Vincent, in an address delivered at the annual meeting of the Medical Society of the State of New York last June, endeavored to enumerate present tendencies in medicine without forecasting the future. He observed a medical profession that does not function adequately in the light of our present knowledge. More than three fourths of our population, he asserted, are treated by general practitioners who have limited technical appliances, little or no specialization of skill, and slight relation to medical services organized in hospitals, dispensaries and clinics. The rich, constituting 5 per cent of our population, receive the best skill of well equipped specialists, and the poor, constituting 15 per cent, receive similar skill through organized institutional practice. As a sociologist Dr. Vincent feels that there are forces at work tending to modify this situation. The advance in preventive medicine, the principle of insurance, including state systems, industrial groups, sick benefit societies and similar organizations, are helping to distribute costs.

The centering of practitioners in the cities is creating another problem. Neglect of the psychic side of medicine, failure to educate the public, narrowly conceived professional policies, and the shortcomings in the knowledge, skill or integrity of some physicians, Vincent charges, have had their part in producing the present situation. And he feels that the general practitioner is doomed unless he will submit to a measure of organization and team play in the cooperative use of laboratories and other resources, in meeting the demand for spreading costs of sickness over large groups through readjusted forms of compensation, and especially unless he will become a practitioner of pre-

ventive medicine. In fact, the final warning sounded by Dr. Vincent was essentially a prediction of state medicine. "No thoughtful person can welcome the extension of state medicine beyond the legitimate and necessary field of public health activity," he said, "but if private initiative and voluntary cooperation fail, it may be impossible to resist the demand for governmental intervention."

Again, in an essay entitled "The Doctor and the Changing Order," presented before the New York Academy of Medicine and printed in the *Survey*, Dr. Vincent repeated and extended his remarks. His skilfully worded article carries the lightly quizzical tone which the fluent sociologist uses so ingratiatingly. But the tenor of the essay, and it is far too long to present even in abstract in these editorial columns, is a cry for an organized medical service. Society—the people—that potent force which molds mankind to its will, seems to indicate a preference for the general practitioner. But this practitioner, Dr. Vincent insists, must be a different fellow. "Only in university clinics, in well developed hospitals, dispensaries and pay clinics, in true group practice, in health centers," he says, "is there to be found genuinely organized medicine, i. e., the teamwork of skilful diagnosticians with well trained specialists backed by efficient laboratory, operating and treatment facilities." Granted that such organizations may be mechanizing medicine, eliminating the personal factor and the human relation, he sees them as advancement: "The specialization and organization are accepted as unescapable consequences of social changes." And his final prophecy is again perhaps well within some of the definitions of state medicine that have been mentioned. "It looks as if society means to insist upon a more efficient organization of medical service for all groups of people, upon distribution of the costs of sickness over large numbers of families and individuals, and upon making prevention of disease a controlling purpose."

The medical leaders of medicine—such presidents of the American Medical Association as Billings, Pusey, Haggard, Wilbur and Lambert, and members of the Board of Trustees and of the House of Delegates of the Association—have insisted again and again that, come what may, the intimate personal relationship of physician and patient is fundamental to sound practice and absolutely essential to proper care of the patient. It is, indeed, the one factor that will reach not only the body but the mind—the soul, perhaps—of the invalid. Sir James Mackenzie, far sighted student of mankind, devoted the declining years of a great life to preaching this gospel. In "Pygmalion, or the Doctor of the Future," a disciple of Mackenzie, Dr. R. M. Wilson, draws a vivid, compelling picture of a medical man whose relationship to his patients will, he believes, be even more intimate than present day leaders have demanded. "Once upon a time, the priest was the doctor," he says; "tomorrow the doctor may well have become the priest, in a new sense of the word." The physician of the future, as Wilson sees him, will not, as is now usually assumed, be a scientist of the orthodox type, a man with the technic of laboratories at his finger ends, and with the aim in his mind of elucidating the phenomena of life in terms of chemistry or physics. "Rather, he will be a humanist," says Wilson, "a man with the widest possible knowledge of human nature, and the deepest possible understanding of human motives. He will be a cultured man, ripe in intellectual attainments, but not lacking in emotional sympathy, a lover of the arts as well as a student of the sciences. This is, indeed, no more than a projection into the future of a gracious figure of the past—for the great physicians of other days were all, likewise, great citizens of humanity."

Now here is a conflict between two conceptions of the medicine of the future. As Vincent expresses it, "It is this very conflict between the call for team work on the one hand and the demand for human insight and sympathy on the other that creates a perplexing problem." And whereas it seems to Vincent, or at least so his published article indicates, that the demands of the future will probably sacrifice the human insight for the efficiency of the team work, great practitioners of medicine conceive of such a sacrifice as involving the death of the art of medicine, the replacement of the human profession of medicine by organized medical department store or factory mechanicians.

The protests that have been made in the editorial columns of THE JOURNAL against the commercialization of periodic physical examinations have called attention to the first encroachments of such superorganized, big business methods on medical practice. The development of such institutions, of organizations for routine treatment of venereal disease, of one price hospitals with no departments for social study, represent more and more the adaptation of commercial methods to medical practice. They are, in fact, exaltation of mass production and delivery with submergence of the individual. The development of such organizations has been consistently opposed by the physicians of each community in which they have functioned, yet each of them has persisted in its practice of medicine apparently with the support of some physicians, for without medical employees not one of them could continue to function.

Times change, and we with the times. The socialist demands an organized state medical practice; the sociologist apparently sees an almost inevitable trend toward such practice; the socialized physician sees great efficiency in such practice. But the psychologist, the humanist, the great practitioners of medicine, see no hope for the real *cure* of ailing humanity in mechanistic methods which discount individual relationships. As to the physician of the future, in the words of George Vincent, "Who knows?"

Current Comment

THE GREAT PHYSICIANS

Some time ago, as noted in THE JOURNAL,[1] students in a class in medical history were asked to name the five greatest contributors to medical progress. In their choice, Pasteur, Hippocrates, Harvey, William Osler, Lister, Koch, Galen and Laënnec were the leaders. The editor of the *Medical Press and Circular* now makes his own selection, which includes Hippocrates, William Harvey, Sydenham, John Hunter and Louis Pasteur, selected in chronological order; and, as a second group, Jenner, Laënnec, Simpson or Morton, Lister and Roentgen. As might have been expected, British physicians displayed more interest in the matter than was shown by American readers, perhaps because the cultural aspects of medicine assume a somewhat more prominent place in British medical education. A correspondent of the British periodical suggests the replacing of John Hunter on the first list by Morgagni on the grounds of precedence, and the replacing of Pasteur by Lister for a reverse reason. Another correspondent has felt that Lister should by all means replace the name of John Hunter on the first list, citing that the only reason for including Hunter was the great number of his contributions to exact knowledge. It is interesting to note that not one of the British observers has felt that the name of William Osler, which loomed so large on the horizon of the medical student, should be placed among the names of the ten great contributors to medical science.

PROTEST THE SHEPPARD-TOWNER ACT

The Sheppard-Towner Act will continue in force two additional years—until June 30, 1929—if two bills[2] introduced into Congress to accomplish that end are permitted to become law. Otherwise, the act will expire by a self-contained limitation, June 30, 1927. The proposed continuance of federal domination over health matters in which the state is constitutionally supreme is in itself pernicious. The proposal is, moreover, astutely timed to force on Congress at the very threshold of the next presidential campaign the question of making the system permanent. It will be remembered that the original proposal was also incorporated as a plank in the platforms of both leading political parties. The proponents of the Sheppard-Towner scheme are apt to brush aside facts and figures by an emotional appeal on behalf of mothers and babies. Any discussion of the scheme in the days immediately preceding a presidential campaign is certain to be complicated further by considerations of political expediency, arising out of the question as to who is going to deliver the women's vote, and where. The act became a law five years ago. Millions of dollars of federal and state moneys have been spent to enable its supporters to establish its merits. Who will say that the evidence submitted indicates that they have done so? Their present plea for the continuance of the scheme for only two years may well be construed as an admission that they have found nothing in the evidence that would justify them in asking for enactment of the procedure on a more lasting basis. The Sheppard-Towner Act has been condemned unreservedly by the House of Delegates of the American Medical Association. The pending bills to continue the act in effect are clearly within the ban of such condemnation. Now is the time to protest against their enactment. The Committee on Interstate and Foreign Commerce, House of Representatives, to which the House bill has been referred, at the present writing has not made its report. Even after it does so, the bill must be acted on by the House. The Senate bill is still to be acted on by the Senate Committee on Education and Labor, and by the Senate. If the Senate and the House agree on a measure, it will still have to be approved by the President. State associations and county societies, and the physicians of the country generally, should immediately telegraph or write to the President and to their Senators and Representatives protesting against the enactment of these bills.

REPORTING OF MATERNAL DEATHS

Two laudable and interdependent movements—the reduction of maternal mortality, and its corollary, universal, conscientious reporting of the causes of death in childbirth—continue to attract the attention of sociologists, economists, physicians and public health workers generally. In 1924, the maternal mortality per hundred thousand white mothers between the ages of 15 and 44 years was 59.1. More than one third of these, 22.5, died of puerperal septicemia.[1] Annually during the last ten years, Great Britain has lost 3,000 of the 700,000 women who gave birth.[2] "Figures vary, as regulations regarding notification of puerperal sepsis are not properly observed."[2] Hospital studies and hospital technic have done nearly all that they can. Still the four highest maternal death rates reported in a recent study are: Cook County Hospital, Chicago, 3.6 per cent; Bellevue and Associated Hospitals, New York, 2.5 per cent; Jefferson Hospital, Philadelphia, 2.3 per cent; Boston Lying-In Hospital, 2.2 per cent.[3] The laboratory has made known the causative organisms and the pathology; little more can be looked for in this direction. Treatment, universally found inadequate and finally focused on the hope offered by intravenous therapy, has not found the dyes invariably successful. Blood transfusion[4] is offered in the hope that it may enhance natural processes. No physician likes to report a puerperal death, least of all a death from puerperal septicemia. The facts that in

1. Medical Historical Perspective, Current Comment, J. A. M. A. **85**: 1645 (Nov. 21) 1925.

2. S. 2696, A Bill to Extend the Provisions of Section 2 of the Act Entitled "An Act for the Promotion of the Welfare and Hygiene of Maternity and Infancy, and for Other Purposes." H. R. 7555, A Bill to Authorize for the Fiscal Years Ending June 30, 1928, and June 30, 1929, Appropriations for Carrying Out the Provisions of the Act Entitled "An Act for the Promotion of the Welfare and Hygiene of Maternity and Infancy, and for Other Purposes," approved Nov. 23, 1921.

1. Statistical Bull., Metropolitan Life Insurance Company **6**: 2 (Nov.) 1925.

2. Puerperal Sepsis, editorial, Canad. M. A. J. **15**: 948 (Sept.) 1925.

3. Tottenham, R. E.: Maternal Mortality of the United States, Irish J. M. Sc., November, 1925, p. 516; abstr. J. A. M. A. **86**: 230 (Jan. 16) 1926.

4. Polak, J. O.: Further Studies in Puerperal Infections and Their Treatment, Am. J. Obst. & Gynec. **10**: 521 (Oct.) 1925.

one case he was called at the last minute and sterility was impossible, and that retrospect of another case discloses to him no break in his technic, infection occurring in spite of his care, are likely to be overlooked by others. Still, the courage that has always activated scientific medicine should not fail in this instance. Accurate reporting and study of cases may be the stimulus whereby hundreds of "mothers in the heyday of their lives,"[5] who leave behind them thousands of motherless children, may be saved to their families and to the world.

ORIFICIAL SURGERY

Foreigners, with their somewhat older civilization, are inclined to view with merriment the development in this land of the free of the numerous peculiar doctrines of healing which appear on the medical horizon from time to time. The *British Medical Journal* views with well justified complacency the fact that the people of Great Britain "are slow to assimilate new ideas," and cites the "comparative indifference with which the teaching of those two great schools of American thought, chiropractic and osteopathy," have been received by the British medical profession. In its current issue, the British publication becomes hilarious again at "the determined efforts of America to effect the moral uplift of mankind." It would seem that the School of Orificial Surgery of Chicago has suddenly become apparent on the British scene, and that the British editors have been having a most enjoyable time in scanning its circular. This document explains that one of the main objects of the school of orificial surgery is the "uplift" and the training of "bigger, broader and better" physicians. Just how the uplift is to be accomplished in the direction of the orifices is, of course, not made plain. The *British Medical Journal* suggests cynically that British legislators, who, it seems, are being appealed to for help in grafting chiropractic and osteopathy into the British medical scheme, provide at the same time for a proper disposition of orificial surgery. Can we expect the world to take our science seriously while the preposterous claims of the numerous cults with which our people are afflicted continue to be tolerated?

ENGLISH WEIGHTS AND MEASURES AS VIEWED ABROAD

A new Brazilian journal,[6] in its first issue, renders a glowing tribute to medical achievements in English-speaking countries, especially the United States. It points out, at the same time, that American medical progress would be even more appreciated abroad if the metric system should receive recognition in books from this country. "When one tries," says the editorial writer, "to reduce English dosage to our own, this involves a series of steps, if not difficult, at least time consuming and bothersome. Take, for instance, a formula requiring ¼₀ or ½₀₀ grain!" The writer suggests that American publishing houses give in parenthesis the metric equivalents after the English figures. The proposed method has long been in use in the columns of THE JOURNAL. American publishing houses should seriously consider the advantages of adopting a similar practice, for the sake of promoting both medical knowledge and international good fellowship.

5. Morris, E. S.: An Essay on the Causes and Prevention of Maternal Morbidity and Mortality, M. J. Australia **2**: 301 (Sept. 12) 1925.
6. Medicina e Pharmacia **1**: 20 (Aug.) 1925.

Association News

DALLAS SESSION

Exhibit on Tropical Medicine

The coming to this country of Dr. Aldo Castellani to take the chair of tropical medicine in the Tulane School of Medicine provides an unusual feature for the Scientific Exhibit at the next annual session of the American Medical Association in Dallas, April 19-23. Dr. Castellani is preparing especially for this occasion a complete demonstration of "Some Tropical Mycoses and Their Causative Agents." As is generally well known, the pathogenic fungi that produce disease conditions in tropical countries are occasionally transmitted to temperate zones, and it is no longer rare, on account of the great increase in international travel, to see cases in this country. It is proposed, as part of Dr. Castellani's exhibit, to demonstrate the technic of isolation and of staining various mycologic specimens. The international reputation of Dr. Castellani and his experience as a teacher in the London School of Tropical Medicine indicate opportunity to visitors to the session for postgraduate study in a field rarely covered in American schools.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARIZONA

Sanatorium Appointments.—Dr. William H. Welch, Baltimore, honorary president of the Desert Sanatorium of Southern Arizona, Tucson, has been appointed on the board of directors of that institution for 1926, also Dr. Allen K. Krause of Baltimore; Dr. Bernard L. Wyatt, Tucson, has been elected president.

ARKANSAS

Personal.—Col. Louis M. Maus, U. S. Army, retired, has resigned as intelligence officer of the Medical Intelligence Bureau for Hot Springs; Colonel Maus organized the bureau in 1924.

Hospital Burned.—Fire recently destroyed the hospital building of the Arkansas State Tuberculosis Sanitarium near Booneville, with a loss of about $40,000. Dr. John Stewart is the superintendent.

CALIFORNIA

Smallpox in Los Angeles.—A newspaper report, January 28, stated that there had been eighteen deaths among 177 cases of smallpox in Los Angeles in January; seven new cases were reported on the foregoing date.

CONNECTICUT

Yale Raises Tuition.—Yale University announced, January 27, an increase of $50 in its undergraduate tuition, effective next fall. Additional appropriations will be made to prevent increasing the financial burdens of self-supporting students, who comprise about one third of the undergraduate body. According to the announcement, undergraduates now pay less than half of the cost of instruction, and in raising the tuition, the university is extending a policy already adopted in the schools of law and fine arts.

DISTRICT OF COLUMBIA

Society of Sanitation.—Initial steps to organize a society of sanitation in the District of Columbia were taken, January 11, by about seventy-five members of the American Public Health Association and others interested in public health work. Dr. Victor C. Vaughan presided at the meeting; a committee was appointed to draft by-laws, and a second meeting will be held the second Monday in February to complete the organization. The object of the society will be research and propaganda about health conditions in Washington.

Warrants for Barbers.—Warrants for sixty proprietors of barber shops in the District of Columbia are said to have been issued from January 5 to January 18 in the drive of the health department for better sanitation. The seventeen sanitary inspectors of the department were concentrated for a time on the barber shop problem. The chief defect found was uncleanliness; it was also found that the barbers failed to wash their hands before working on customers, and that there was a general disregard of regulations for the sterilization of instruments. A violation of the sanitary regulation is punishable by a fine of not more than $25

Pneumonia Must Be Reported.—Eighteen new cases of pneumonia were reported to the health department of the District of Columbia, making the total number of cases on the health department's records, January 11, reported since January 1, as forty-seven; three deaths also were reported on this date, bringing the death total since the New Year to twelve. District health officer William C. Fowler expressed the belief that his records do not indicate accurately the number of pneumonia cases in the city. "I am quite satisfied that the department is not getting a complete report," said the health officer. "The death rate is entirely too high for the number of cases on our records." Dr. Fowler said that physicians can be penalized with a fine ranging from $10 to $40 for not reporting pneumonia.

FLORIDA

Smallpox Stops Communication with Bahamas.—According to the Chicago *Tribune*, the British government has prohibited communication between the Bahama Islands and Florida until further orders, on account of outbreaks of smallpox in Florida; there were about forty-five cases of smallpox in Miami, January 28, it is said, and cases in other towns in the Florida keys.

Society News.—Dr. Ernest C. Levy addressed the Hillsborough County Medical Society on the smallpox situation in Tampa; ninety-six cases are said to have occurred from January 1 to January 19. A city-wide vaccination campaign is in progress and about 30,000 persons have been vaccinated. The society endorsed the giving of publicity to the smallpox outbreak in Tampa by Dr. Levy.

Health at Jacksonville.—Among sixty-eight cities having a total population of 29,000,000, the highest death rate (25.8) for the week ending January 23 appeared for Jacksonville. According to the telegraphic reports to the Department of Commerce, the death rate in Jacksonville for the corresponding week in 1925 was 17.4.——Dr. Charles Hall Farmer, head of the Aiken County Health Department, South Carolina, since its formation, has resigned, effective February 15, to accept a position as medical officer at Jacksonville.

ILLINOIS

Health at Rockford.—The death rate in Rockford in 1925 was 8.82 per thousand population. According to the commissioner of health, 73.5 per cent of the total number of births occurred in hospitals, as compared with 43 per cent in 1918.

Health Survey.—Thomas Parran, Jr., U. S. Public Health Service, has been detailed to work in Illinois for a time, and in cooperation with Dr. William S. Keister, city health director, will conduct a health survey of Decatur. Health surveys will be made in fifteen of the larger cities of the state outside Chicago.

Society Operates Credit Bureau.—The Vermilion County Medical Society, Danville, has its own credit-rating and collection bureau, which, in the first two years of its work, collected more than $25,000 on old accounts turned in by members. Three full-time employees carry on this service, which is maintained twenty-four hours a day.

Pneumonia Typing.—The laboratory of the state department of health will culture and type specimens of sputum from cases of pneumonia, to assist in the antipneumonia campaign. The department suggests, however, that, in view of the difficulties of mailing specimens, local laboratories be used as much as possible.

The Smallpox Situation.—The number of cases of smallpox in Illinois is increasing and they are widely distributed. The state department of health reports that twenty-five cases have been reported from Elgin since January 1; fourteen cases from Champaign; eight from La Salle County; eleven from Marshall, and three from Iroquois. One death from smallpox was reported from Metropolis.

Personal.—Dr. John W. Ovitz, Sycamore, has been appointed physician in charge of the county tuberculosis sanatorium.——Dr. Frank N. Davenport has been elected president of the medical staff of Lutheran Hospital, Moline; Dr. Clifford C. Ellis, vice president, and Dr. David B. Freeman, secretary.——Dr. Wesley Claude Runyon, assisting managing officer, Lincoln State School and Colony, has been transferred to a similar position in the state hospital at Alton, and Dr. Ola A. Kibler, on duty at the state hospital at Chicago, will be transferred to Lincoln.——Dr. George L. Prentice, assistant surgeon at the Soldiers' Home at Danville, has been transferred to the Milwaukee branch; according to the Danville *Commercial News*, five physicians at the Milwaukee branch of the Soldiers' Home have recently been dismissed for engaging in private practice.——Dr. Frank S. Whitman, 2d, has resigned as health officer of Belvidere.

Chicago

Society News.—Dr. Edwin J. Gardiner was elected president of the Chicago Ophthalmological Society, January 18; Dr. Dwight C. Orcut, vice president, and Dr. Robert H. Buck, secretary-treasurer.——The Chicago Heart Association held its annual meeting at the City Club, February 2, under the presidency of Dr. James B. Herrick; Dr. Hoyt E. Dearholt, executive secretary, Wisconsin Anti-Tuberculosis Association, spoke on "Heart Disease and Tuberculosis in a Public Health Campaign."

Personal.—Isidore S. Falk, Ph.D., assistant professor of hygiene and bacteriology, University of Chicago, has been appointed director of surveys of the Chicago Health Department, and will undertake a series of statistical researches.——Dr. Charles Philip Miller, Jr., of the Rockefeller Institute for Medical Research has been appointed assistant professor of medicine at the University of Chicago, and Dr. Chester M. Van Allen, assistant professor of surgery.——Dr. William T. Brown, superintendent, Valmora Sanitarium, Valmora, N. M., addressed the Physicians' Fellowship Club, February 5, at the Logan Square Masonic Temple, 2154 Kedzie Boulevard, at 9 o'clock.——Dr. William A. Evans, professor of public health, Northwestern University Medical School, Chicago, gave an address at Purdue University during the recent "health week," observed by the city of Lafayette and the university.

INDIANA

Society News.—Dr. Alfred S. Jaeger was elected president of the Indianapolis Medical Society, January 15; Drs. Harry L. Foreman and Lehman M. Dunning, vice presidents, and Dr. Lyman R. Pearson, secretary-treasurer, reelected.

Hospital Building Dedicated.—The Boehne Tuberculosis Hospital of Vanderburgh County dedicated a new $115,000 building, January 24, which increased the capacity of the hospital, forty-eight beds, and made the total capacity eighty beds. The old hospital building will be completely renovated and used for women and children. This hospital was opened in 1908 as the Boehne Camp, and was operated for sixteen years by the county tuberculosis association; it was taken over in 1924 as a county hospital and the name changed to the Boehne Hospital of Vanderburgh County. It has about 68 acres of land and several buildings. The superintendent is Dr. George E. Mills.

"Dr." Wright's License Revoked.—The state board of registration and examination revoked the license, Dec. 18, 1925, to practice in Indiana, which had been issued, Sept. 17, 1924, to a man in Fort Wayne under the name of John F. Wright. Investigation by the board is said to have revealed that the man from Fort Wayne is James F. Wright, "an illiterate and without occupation," and not John F. Wright, who died at Columbus in 1906. The Fort Wayne man is said to have claimed that his diploma and license had been destroyed in a fire, and the board, in view of having issued a license to John F. Wright in 1897 and having no record of his death, duplicated the license.

KANSAS

Personal.—Dr. Tracy R. Conklin, Abilene, has been reappointed county physician.——Dr. Elias W. Reed, Holton, has been appointed county physician to succeed Dr. Charles A. Wyatt——Dr. Herbert Atkins, Pratt, has been appointed county health officer.

Society News.—Dr. Otto Jason Dixon, Kansas City, Mo., addressed the Golden Belt Medical Society, Salina, January 7, on "Some Intracranial Complications Following Extracranial Infections."——The Stafford County Medical Society recently raised its annual dues from $5 to $6.——Dr. Earle G. Brown, secretary, state board of health, recently addressed the Stafford County Medical Society on "Cooperation."

KENTUCKY

Paducah's Baby Show.—The health department of Paducah gave an "open house" program at the Riverside Hospital, January 15-16, a special feature of which was the "baby show." Infants were given a physical examination, and twelve of the seventy-six entered were pronounced without physical defects, and from these one boy and one girl will be selected as the prize winners. Infant mortality in Paducah is said to be greater than it is in the state as a whole.

Funds for Crippled Children.—The Kentucky Crippled Children Commission has requested an appropriation by the legislature of $100,000 for the rehabilitation of crippled children in the state. The governor is said to have endorsed the appropriation. There are about 12,000 crippled children in Kentucky, according to a recent report of the commission, and only fifty-five of them are being treated in hospitals now; 571 are waiting to be admitted when facilities have been provided. The state gave the commission $10,000 last year, and the Kentucky Crippled Children's Society raised more than $30,000 by popular subscription. Since the inauguration of this campaign, the deformities of 204 have been corrected, some to a normal state; others have been greatly improved.

MAINE

Dr. Garrison Appointed Superintendent.—Dr. William M. Garrison, Bangor, has been selected superintendent, it is reported, of the new tuberculosis sanatorium of Belmont County, Ohio. The institution, which is being erected at St. Clairsville, is nearing completion.

MARYLAND

Surgical Association Formed.—At the dinner to Dr. Dean Lewis, January 23, when many Johns Hopkins graduates returned to welcome Dr. Lewis as chief surgeon of the hospital, the Johns Hopkins Surgical Association was formed. The purpose of the association is to bring back to the hospital, as frequently as possible, surgeons who graduate from Johns Hopkins, and to maintain contact with them when they are unable to return.

Memorial Meeting.—A memorial meeting for Dr. Samuel Taylor Darling, who was killed in an automobile accident, May 20, 1925, near Beirut, Syria, while on duty as a member of the League of Nations Malarial Commission, was held, January 17, at the School of Hygiene and Public Health, Johns Hopkins University; Dr. William H. Welch presided; addresses were made by Dr. Edgar B. Friedenwald, Dr. Frederick F. Russell, Dr. Wilson G. Smillie and Robert W. Hegner, Ph.D.

MICHIGAN

Warning.—Mr. Olaf Huseby is no longer an accredited agent of the American Medical Association. Our accredited agents carry credentials bearing an expiration date and the signature of Dr. Olin West, Secretary and General Manager of the Association. Mr. Huseby's credentials have expired.

Cancer Week.—Dr. Francis Carter Wood was the principal speaker during cancer week, January 21-29, held under the auspices of the Wayne County Medical Society and the Detroit Department of Health; Dr. Wood addressed the students at the University of Michigan and at the Detroit College of Medicine, and the public at the Federation of Women's Clubs, Detroit; he held a clinic for physicians at the Harper Hospital.

State Hospital Transfers.—Dr. Perry C. Robertson, superintendent of the Newberry State Hospital, has been transferred to the Ionia State Hospital, to succeed Dr. Robert H. Haskell, who has recently resigned to accept the superintendency of the new Wayne County Training School for Feebleminded Youths at Northville; Dr. Earl H. Campbell, superintendent of the Traverse City Hospital, has been transferred to Newberry to succeed Dr. Robertson, and Dr. George F. Inch, assistant superintendent of the Kalamazoo State Hospital, has been promoted to the superintendency of the Traverse City Hospital to succeed Dr. Campbell.

Society News.—Dr. Phil L. Marsh, associate professor of medicine, University of Michigan Medical School, Ann Arbor, addressed the Kent County Medical Society, Grand Rapids, January 27, on "The Diagnosis of Chronic Heart Disease." The president of the society for 1926 is Dr. John R. Rogers; the secretary-treasurer, Dr. Homer T. Clay.——Dr. Walter R. Campbell, Toronto, Canada, will address the Wayne County Medical Society, February 1, on "Acidosis, Coma and Infections in Diabetes Mellitus."——Dr. Udo J. Wile, professor of dermatology and syphilology, University of Michigan Medical School, Ann Arbor, will address the Medical Section of the Wayne County Medical Society, February 8, Detroit, on "The Wassermann-Fast Patient."

MISSOURI

Adcox Sentenced to Jail.—Dr. Robert Adcox and Sam Kaplan, medical diploma mill operators, were sentenced to thirty days in jail by the Supreme Court of the District of Columbia after they had pleaded guilty. Both Kaplan and Adcox had testified for the government in the trial of Helmuth P. Holler, president of the "Oriental University," Washington, D. C., who was convicted of selling diplomas.

Society News.—Dr. Herman E. Pearse, health commissioner, Kansas City, addressed the Kansas City Obstetrical Society, January 14, on "Problems of the Health Commissioner with Obstetrics."——Dr. Ernest Sachs addressed the St. Louis Medical Society, January 19, on "Radical Treatment of Trigeminal Neuralgia, with a Review of Seventy-One Operations Without a Death," and Dr. Edward Lee Dorsett on "Fetal Monstrosities—Their Relation to Dystocia—Personal Collected Cases" (lantern slides).——Dr. John J. R. Macleod, associate dean and professor of physiology of the Faculty of Medicine of the University of Toronto, Canada, addressed the Kansas City Academy of Medicine at the annual banquet, February 5.——Members of the Jackson County and Wyandotte County Medical societies have been invited to the home of Dr. G. Wilse Robinson, Kansas City, February 11, to a buffet supper.——Dr. Walter A. Gekler, Albuquerque, N. M., addressed the St. Louis Medical Society, January 26, on "Tuberculosis East and West."

NEW JERSEY

Society News.—Dr. Livingston Farrand, president of Cornell University, Ithaca, N. Y., addressed the Essex County Medical Society, Newark, recently, on "The Responsibilities of the Medical Profession to the Community."—Dr. Nellis B. Foster, associate professor of medicine, Cornell University Medical College, New York, addressed the Hudson County Medical Society, Jersey City, Dec. 1, 1925, on "Treatment of Graves' Disease."——Dr. Lucius F. Donohoe, president, and Dr. J. Bennett Morrison, secretary of the Medical Society of New Jersey, and Dr. Henry O. Reike, editor of the state medical journal, addressed the one hundred and ninth annual meeting of the Monmouth County Medical Society, Monmouth, Dec. 16, 1925.——Dr. Oswald S. Lowsley, New York, recently addressed the Passaic County Medical Society, Paterson, on "A New Phase of Surgery of the Genito-Urinary Tract with Moving Pictures and Animated Film Demonstrations."

Chiropractors in Court.—The secretary of the state board of medical examiners reports that the following chiropractors have been tried for practicing medicine without a license:

Louis Koomos, Oradell, pleaded guilty, Nov. 10, 1925, in the East Rutherford District Court and paid the penalty and costs.

Ada E. Blaisdell, Vineland, pleaded guilty, Nov. 20, 1925, in the Court of Common Pleas, Bridgeton, and paid the penalty and costs.

Algia Burroughs and Phillip Tremmel, Newark, pleaded guilty, Dec. 1, 1925, in the First District Court of Newark and paid the penalty.

Stanley I. Guzowski, Trenton, pleaded guilty, Dec. 9, 1925, in the District Court of Trenton and paid the penalty and costs.

Dagmar S. Ackerman, Paterson, and Alex Vekony, Passaic, were each tried in the Passaic District Court, Dec. 11, 1925. Judgment was entered for the penalty and costs.

Clarence Drake, who practiced in Morrison, and his wife, Mary Drake, who practiced in Dover, pleaded guilty in the Morristown District Court, Dec. 14, 1925, and each paid the penalty.

Louis Turner, East Orange, was tried, Dec. 22, 1925. He paid the penalty and costs.

Max Blindt, Newark, pleaded guilty, Dec. 23, 1925, and paid the penalty and costs.

NEW YORK

Veteran Practitioners Honored.—The Suffolk County Medical Society gave a dinner at the Country Club, Riverhead, recently in honor of Dr. Edwin S. Moore, Bay Shore, and Dr. Clarence C. Miles, Greenport, who have been in the practice of medicine for fifty years. Dr. William A. Hulse presided, and among the speakers were Dr. Frank Overton, Patchogue, Dr. William H. Ross, Brentwood, Dr. Albert E. Payne, Riverhead, Rev. W. R. Watson, Bay Shore, and the two honored guests.

Health Officers and Districts.—There are 1,307 health districts in the state of New York, 164 fewer than there were ten years ago; the town of Bangor and the village of North Bangor in Franklin County were consolidated in one health district, January 7, and Dr. Florence W. McCarthy continues as health officer; on the same day, the town of Amherst and the village of Williamsville in Erie County also consolidated, and Dr. Myron M. Metz continues as health officer. There are 950 health officers in the state, exclusive of New York City.

Midwife Goes to Prison.—Marie Barresi, a native of Italy, was recently sentenced to one year in the New York State Prison for Women by Judge Hazard of Oneida County for committing a "serious offense against the state." New York *Health News* states that Madam Barresi was licensed by the state commissioner of health to practice midwifery in 1920, and that the renewal of her license in 1921 was refused on account of irregularities in her practice; although not licensed since 1922, she has continued to practice in Utica and during that time has been convicted of misdemeanor three times. Action may be taken when she is out of prison to deport her to Italy.

New York City

Associations Merge.—Dr. Haven Emerson, president, New York Heart Association, announces that the association voted, January 19, to merge with the New York Tuberculosis and Health Association; the latter organization will at once organize a special committee on heart diseases, and will actively carry on the work of prevention in this field. Dr. Emerson considers this a step forward and decidedly in the interest of public health.

Hospital News.—The Italian Medical Society, Brooklyn, will give a dinner, February 8, at the Hotel Bossert, at which it hopes to raise $300,000 for a local Italian hospital. Another fund will also be started for $100,000 to equip the main building.——Subscriptions for the Brooklyn Jewish Hospital amounting to $250,000 were given, January 16, at a dinner, completing a fund of $1,500,000, which insures the erection of a new wing and other additions.

Mayor Addresses Physicians.—A public meeting at the Town Hall, January 28, comprising, among others, about 1,500 physicians of the city, was addressed by Mayor Walker, Dr. Louis I. Harris, health commissioner, and Dr. Wendell C. Phillips, President-Elect of the American Medical Association. The addresses concerned the health of the city, its gratuitous medical service through private and allied hospitals, and the proposed national home for aged and incapacitated physicians.

Society News.—Dr. Jerome Kingsbury has been elected president of the West Side Clinical Society for 1926, and Dr. William B. Giles, secretary.——Dr. Julian W. Brandeis has been elected president of the New York Physicians Association for 1926; Drs. Joseph Ziporkes and Maurice O. Magid, vice presidents; Dr. Aaron Brown, treasurer, and James W. Smith, secretary.——Dr. Jacques Forestier, Paris, France, will address the New York Academy of Medicine, February 8, at 8:30 o'clock, on "Radiologic Exploration with Iodized Oil (Lipiodol)"; Dr. Harold E. B. Pardee addressed the academy, February 4, on "The Use of Digitalis in the Treatment of Children with Heart Disease."——Mr. H. Clyde Snook of the Bell Telephone Laboratories addressed the New York Electrical Society, February 3, on "Electrically Amplified Heart Beats," and phonographic records of the heart made under the direction of Dr. Richard C. Cabot of Harvard University Medical School, also the audiometer, were demonstrated and explained.

NORTH CAROLINA

Joint Meeting with Dentists.—The Raleigh Dental Society and the Raleigh Academy of Medicine were entertained at dinner by Dr. John B. Wright, recently, and were addressed by Dr. Clyde E. McDannald, New York, on "Relation of Impacted and Infected Teeth to Eye Disease," and by Guy R. Harrison, D.D.S., Richmond, Va., on "Dental Problems of Interest to Physicians."

Personal.—Dr. William R. Goley, Graham, major, medical reserve corps, has been placed in command of the medical detachment of the One Hundred and Twentieth Infantry.——More than forty physicians attended a dinner given by Dr. Alonzo H. Myers, recently, in honor of Dr. Watson S. Rankin, who has established headquarters in Charlotte for his work in connection with the Duke Foundation.——Dr. John H. Tucker has been elected president of the staff for 1926 of St. Peter's Hospital, Charlotte; Dr. William M. Strong, vice president, and Dr. Lucius G. Gage, secretary-treasurer.

OHIO

New Health Commissioners.—Dr. Charles H. York has been named health commissioner for Columbiana County, succeeding Dr. Thomas T. Church, Salem; Dr. Frederick H. Stires, Malvern, health officer for Carroll County; Dr. Walter C. Corey, Chardon, for Geauga County; Dr. Edward J. Schwartz, Painesville, for Lake County; Dr. Forrest R. Stewart, Waterloo, for Lawrence County, and Dr. Melville D. Ailes, Sidney, for that city and the Shelby County District.

Tuberculosis Institute.—In cooperation with the Ohio State University, the National Tuberculosis Association will conduct a regional institute for tuberculosis and health workers at Columbus, March 15-27, under the direction of Philip P. Jacobs, Ph.D.; only thirty persons can be accommodated at the institute; a small entrance fee will be charged. It will be open to health commissioners, tuberculosis workers and nurses. A similar institute will be held in Chicago.

PENNSYLVANIA

Decline in Death Rate.—The death rate in Pittsburgh dropped from 15.2 in 1924 to 14.7 per thousand population in 1925. There were 1,688 deaths from pneumonia last year, which is the lowest number for the last six years.

Board of Health Removed from Office.—The new city council of Pottsville passed an ordinance, January 12, abolishing the old board of health, and removing its appointees. According to the Pottsville *Journal*, the council then proceeded to reorganize the board, electing Dr. Henry A. Dirschedl president of the board, and H. J. Herbein, D.D.S., secretary to succeed himself. The president of the previous board was Dr. Hamilton C. Wallace.

Public Health Association Meeting.—The second annual meeting of the Pennsylvania Public Health Association will be held at the County Medical Society Building, Twenty-First and Spruce Streets, Philadelphia, February 16-17, Dr. Charles H. Miner presiding. Among others Dr. B. K. Wilbur, president, Lower Merion Township Board of Health, Philadelphia, will speak on "A Successful Experiment in Milk Control"; Dr. Carey J. Vaux, health commissioner of Pittsburgh, on "What Is Being Done by City Health Officers"; Dr. Samuel S. Woody, director, Philadelphia Hospital for Contagious Diseases, on "Present Status of Serum Therapy in Scarlet Fever"; Prof. Charles E.-A. Winslow, president American Public Health Association, on "General Public Health," and Dr. Emery R. Hayhurst, Columbus, Ohio, on "The Factory and Public Health."

Philadelphia

Millions for Charity.—The Federation of Jewish Charities announced at a dinner in Philadelphia that $4,404,000 was pledged in the building campaign which closed with that occasion. The funds will be used to erect eleven buildings for charitable, religious and educational work, and to pay off mortgages on some of the federation's institutions; the amount pledged was $900,000 more than the goal.

Increase in Death Rate.—The Department of Health of Philadelphia reports, according to the Philadelphia *Ledger*, that the death rate of the city in 1925 was 13.16 per thousand population, as compared with a rate of 12.95 in 1924. There were, it is said, 4,596 deaths from heart disease, and 3,901 in 1924; 1,500 deaths from pneumonia, and 1,650 in 1924; 1,781 deaths from tuberculosis of the lungs, and 1,777 in 1924; forty-five deaths from typhoid fever, and forty-one in 1924; seventy-six deaths from measles, and twenty-nine in 1924; seventy-five deaths from scarlet fever, and forty-two in 1924.

Society News.—Dr. Jay F. Schamberg addressed the section on medical history of the College of Physicians of Philadelphia, January 19, on "The Ravages of Smallpox Among Royal Families of Europe" illustrated by lantern slides.——The presidential address of Dr. Sherman F. Gilpin before the

Philadelphia Neurological Society was delivered, January 22; the subject was "The Relation of Trauma to Neuropsychiatric Conditions as Observed in a Compensation Court."——Dr. Anthony J. Lanza, assistant medical director, Metropolitan Life Insurance Company, addressed the Section on Public Health and Industrial Medicine of the College of Physicians of Philadelphia, January 22, on "Industrial Hygiene," and Dr. L. R. Thompson, U. S. Public Health Service, on "Industrial Morbidity Statistics."——Dr. Hugh Cabot, dean and professor of surgery, University of Michigan Medical School, Ann Arbor, addressed the Philadelphia Urological Society, January 25, on "The Application of the Doctrine of Prepared Soil to Renal Infections."

TEXAS

Personal.—Dr. Dewitt T. Smith, Dallas, has been appointed medical director of the Southwestern Life Insurance Company. ——Dr. Aubrey O. Hampton has been appointed city physician of Fort Worth.

Society News.—The Tri-State Medical Society of Louisiana Arkansas and Texas met at Marshall, January 20-21, with an attendance of 186. Dr. Frank S. Littlejohn, Marshall, was elected president; Drs. J. Garnett Yearwood, Gayle, La., Archibald E. Chace, Texarkana, Ark., and James A. Daniels, Carthage, Texas, vice presidents; and Dr. Frank H. Walke, Shreveport, La., secretary; Dr. Walke has been elected to that position for the tenth consecutive year. The next meeting will be in Texarkana. The Harrison County Medical Society tendered a banquet to the Tri-State Society members, January 20.

Death Registration Campaign.—A state-wide birth and death registration campaign to cover several months is being planned by the state board of health. There is some hope that Texas will be admitted to the registration area this year; about 74 per cent of the births were reported, and a larger percentage of deaths were reported in 1925. A special agent of the Bureau of the Census was in Texas recently, conferring about plans for conducting a registration test within the next six months. Everybody is requested to cooperate in this effort to place Texas in the registration area. There are thirty-nine states now in the death registration area and thirty-one in the birth registration area.

VERMONT

Dr. Tinkham's Will.—The will of the late Dr. Henry Crain Tinkham, dean of the University of Vermont College of Medicine, Burlington, provides for establishing one or more scholarships in the college to be known as the Dr. H. C. Tinkham scholarships; Dr. Tinkham also gave his medical library to the college, and his surgical instruments to the Mary Fletcher Hospital. Except for two legacies, the use of the remainder of the estate is given to the widow during her lifetime, and at her death is to be divided among relatives, the Orleans Historical Society and the Delta Mu Fraternity for the purpose of securing a permanent home (THE JOURNAL, January 2, page 54).

WISCONSIN

Personal.—Dr. Royal C. Rodecker, Holcombe, has been appointed a member of the state board of medical examiners, and will succeed his father, Dr. Charles W. Rodecker, who resigned.

New Medical School.—The regents of the University of Wisconsin have issued instructions, it is reported, to prepare plans to expend about $1,500,000 on a new building and equipment for the University of Wisconsin Medical School; the first unit will cost about $450,000; bids will be issued by July 1.

Radiologists Meet in Milwaukee.—The executive committee of the Radiological Society of North America has chosen Milwaukee for the meeting place of the next annual convention, in November. The convention will last about a week, and, the secretary of the Milwaukee County Radiological Society, says, will bring about 1,500 roentgenologists to the city.

CANADA

Fellowship Awarded to Professor Krogh.—The Faculty of Medicine of the University of Toronto has awarded the Charles Mickle Fellowship for 1924 to Dr. August Krogh, professor of animal physiology, University of Copenhagen, "on account of the far reaching conclusions with regard to capillary circulation and the oxygen supply of the tissues which have been the outcome of his researches during the last ten years." Dr. John J. R. Macleod, chairman of the committee of fellowships and scholarships, University of Toronto, writes that this fellowship is awarded annually to that member of the medical profession who is considered by the Faculty of Medicine of the University of Toronto to have done most during the preceding ten years to advance sound knowledge of a practical kind in a medical art or science. The value of the prize is about $1,300; previous awards have been made to Sir James Mackenzie, Dr. Frederick G. Banting, Dr. Harvey Cushing and Prof. I. P. Pawlow.

GENERAL

Death of Dr. Kellner.—Dr. G. A. Herman Kellner, organizer and head of the scientific bureau of the Bausch and Lomb Optical Company, died at his home in Rochester, N. Y., January 28. Dr. Kellner's death deprives the optical industry of America of one of its outstanding personalities.

Typhoid Increase Forty-Five Per Cent.—Preliminary reports of the number of cases of typhoid throughout the country for the first eleven months of 1925 show an increase of 45 per cent compared with the same period for 1924, the total number of cases being 40,015 and 27,531, respectively, according to the U. S. Public Health Service. The increase is noted in all groups of states, except New England and the Pacific Coast, and is explained, in part, by the fact that certain state health departments made more complete reports. Nevertheless, the fact is that during 1925 there was a very large increase in the typhoid incidence.

American Association for Medical Progress.—President Clarence C. Little of the University of Michigan, Ann Arbor, has accepted the chairmanship of the lay advisory board of the American Association for Medical Progress, and Mr. Peter Kasius, for several years assistant director of educational work, U. S. Public Health Service, has resigned that position to become field secretary of this association, which is planning an extended program for the coming year. The American Association for Medical Progress is a national lay organization for popular education on the scientific foundations of modern medical practice and public health work.

Bill to Establish Bureau of Medical Research.—Representative Woodruff of Michigan has introduced a bill in the house of representatives which would establish, in the department of the interior, a bureau of medical research, the function of which would be to investigate physiologic processes; to devise means for controlling the bodily processes, and to determine the physical, chemical and biologic properties of materials where this would be advantageous to medical science. The bill provides for a director of the bureau, to be appointed by the President at a salary of $15,000, an assistant director at $10,000, and such other employees as the director should decide, these appointments to be made under civil service rules. There would be also a visiting committee of five prominent members of scientific societies, not in the employ of the government, to serve without compensation. Mr. Woodruff's bill would authorize the director to negotiate for not more than 100 acres of land near the city of Washington at not more than $2,000 an acre, and to draw plans for suitable buildings to cost not more than $1,000,000. The director of the bureau of medical research, according to this bill, shall make plans and submit estimates to the director of the budget on a basis of spending about $550,000 in 1927.

Sheppard-Towner Act May Be Continued in Force.—Bills have been introduced into the Senate and House of Representatives to postpone the expiration of the Sheppard-Towner Act for two years, until June 30, 1929. Unless this legislation is passed, the act will expire, June 30, 1927, because of a limitation embodied in it. The House bill was introduced by Representative Parker, January 13, and on the following day the Committee on Interstate and Foreign Commerce, to which the bill had been referred, held a hearing on it. Senator Phipps introduced the bill into the Senate, "by request," January 23, and it is now before the Senate Committee on Education and Labor. The introduction of a bill "by request" is usually construed to mean that the senator or representative introducing it has an open mind on the subject matter of the bill and reserves the right to vote for or against it. It is reported that the proponents of these bills, at whose instance they have been introduced, admit the absence of evidence now to justify the permanent enactment of legislation patterned after the Sheppard-Towner scheme, but claim that they will be able to produce such evidence if given two more years of power. To carry the Sheppard-Towner Act into effect costs the federal government approximately $1,240,000 a year, and costs the state governments taken as a whole something less than a million dollars a year.

News of Epidemics.—An outbreak of about 150 cases of an intestinal disorder suddenly occurred at the state normal school, Trenton, N. J., about January 12. The state health director, who was then investigating the epidemic, is reported to have said that an examination of the food and water failed to reveal the cause.——There had been 528 cases of measles reported in Oswego, N. Y., January 18, in the present epidemic, of which 146 were then still under quarantine.——All the twenty-one beds in the detention hospital, Hibbing, Minn., were occupied by scarlet fever patients, January 20, and this is said to have been the first time since the influenza epidemic of 1918 that cases of the same disease have completely filled the hospital. There were said to be more than forty cases in the city, and a smaller number in the surrounding community. ——There were 2,250 persons in Cleveland under quarantine for measles, January 2. There are said to have been twelve deaths from measles in Cleveland since the first of the year. ——About 25 per cent of the pupils enrolled in the schools of Patterson, Calif., were absent during the week ending January 16, it is reported, on account of an epidemic of influenza.——The State Industrial School for Boys, Denver, was placed under quarantine, January 18, as a result of nine "light" cases of scarlet fever developing in the institution. ——The Leaf River High School and the district school at Myrtle, Ind., were ordered closed, January 25, by health authorities on account of an outbreak of scarlet fever.—— Newspaper reports state that smallpox is spreading throughout the Primora and Spassky districts in Siberia, where there had been 216 deaths up to January 15.

New County Society Presidents.—The following physicians have recently been elected president of the county medical societies indicated:

Dr. Samuel T. Bell, Alpena, Mich., Alpena County Medical Society (reelected).
Dr. J. William Blasdell, Ballinger, Texas, Runnels County Medical Society.
Dr. William T. Booher, Wellsburg, W. Va., Brooke County Medical Society.
Dr. William F. Boyers, Fairmont, W. Va., Marion County Medical Society.
Dr. Clarence T. Bradford, Commerce, Texas, Hunt County Medical Society.
Dr. Harvey Brown, Freehold, N. J., Monmouth County Medical Society.
Dr. Nial L. Burrell, Springfield, Ohio, Clark County Medical Society.
Dr. Robert T. Canon, Lufkin, Texas, Angelina County Medical Society.
Dr. T. Homer Coffen, Portland, Ore., Portland City and County Medical Society.
Dr. Allan T. Coffman, Marshall, Mo., Saline County Medical Society.
Dr. John B. Comfort, Trenton, N. J., Mercer County Medical Society.
Dr. Louis Fauerbach, Madison, Wis., Dane County Medical Society.
Dr. Victor J. Gangewere, Allentown, Pa., Lehigh County Medical Society.
Dr. Lloyd D. Gass, Klamath Falls, Ore., Klamath and Lake Counties Medical Society.
Dr. Fabian J. Gosin, Green Bay, Wis., Brown-Kewanee County Medical Society.
Dr. Thomas R. Griffin, St. Petersburg, Fla., Pinellas County Medical Society.
Dr. James C. Hayes, Medford, Ore., Jackson County Medical Society.
Dr. Matthew J. L. Hoye, Meridian, Miss., Lauderdale County Medical Society.
Dr. Lauritz A. Larsen, Colfax, Wis., Chippewa County Medical Society.
Dr. William J. Lowis, Colby, Kan., Decatur-Norton County Medical Society.
Dr. Howard Mellor, Sconnelltown, Pa., Chester County Medical Society.
Dr. John L. Moorhead, Neodesha, Kan., Wilson County Medical Society.
Dr. James C. Norris, Augusta, Ky., Bracken County Medical Society.
Dr. Emory R. Park, La Grange, Ga., Troup County Medical Society.
Dr. David H. Rowe, Washington C. H., Ohio, Fayette County Medical Society.

Department of Agriculture Surveys Rural Hospitals.—In a report of investigation of hospitals in farming communities, the U. S. Department of Agriculture says that not more than 12 per cent of the rural population of this country has modern health supervision. The establishing of rural hospitals has been checked by increase in building costs and the necessity for economy in local government. Credit is given to Washington County, Iowa, for the initial step in the rural hospital movement; Iowa in 1909 was the first state to enact a law which authorized counties to tax themselves to build hospitals, and Washington County proceeded at once to erect a hospital; prior to that, thirty-two counties in Iowa had not one hospital bed; since then, sixteen other states have passed laws similar to the Iowa law, and many rural hospitals have been built. In this study, the department of commerce investigated forty rural hospitals, and found that those hospitals in which the people have a direct interest, are usually most satisfactory. At Berea, Ohio, there is a district hospital established by communities in two counties, and in this district there are six distinct political subdivisions; the building cost $110,000. At Hutchinson, Minn., a community hospital has been built by public subscription. It is said that a large proportion of the 750,000 women who annually give birth to children in the United States without medical attention live on farms. The report urges farming communities not to sacrifice health for economy; a hospital in a rural community attracts a better class of physicians to that locality. In a Montana county of 5,000 square miles, there were no hospitals and only three physicians in 1924, in Minnesota, 127 villages were reported to be without physicians; similar conditions exist in the Dakotas, and forty counties in Kentucky were without adequate medical service, one of which did not have a physician.

LATIN AMERICA

Society Elections.—At the annual meeting in Rio de Janeiro of the Brazilian Society for Neurology, Psychiatry and Legal Medicine, Dr. Juliano Moreira was elected president; Drs. J. Marinho and P. Olinto, vice presidents; W. de Almeida, general secretary; W. Pires, first secretary; C. Lopez, H. Povoa and Lopez Rodriguez, second secretaries, and A. Botelho, treasurer.

The American Child Welfare Institute.—Dr. L. Morquio describes in the *Archivos Latino-Americanos de Pediatría* the plans for the organization of the Pan-American Child Welfare Institute. It is to be located at Montevideo as headquarters of the American International Bureau for Protection of the Child, as voted at the fourth American Child Welfare Congress, held in Chile in 1924. The international board of directors will have its headquarters at Montevideo, and will apportion to the different countries the amount each shall pay, and elect the director. It is planned to publish a bulletin. The next Child Welfare Congress is to convene at Havana in December, 1926. Dr. Morquio was commissioned by the second Child Welfare Congress to draw up plans for the undertaking, and later was appointed honorary director pro tem.

FOREIGN

Number of Medical Missionaries.—According to the board of foreign missions of the Presbyterian Church, the number of medical missionaries in the field from the United States and British Empire is as follows:

	Africa	China Japan	India	Near East	East Indies	South America	Totals
Great Britain	55	174	160	64	4	3	460
United States	33	276	118	40	25	6	498
Canada	..	31	16	..	..	1	48
Australia and New Zealand	..	4	4	..	..	..	8
	88	485	298	104	29	10	1,014

Prizes of French Academy of Medicine.—The Académie de médecine had fifty-two prizes to distribute, but there was no competition for some and no worthy articles were received for others, so that only twenty-four prizes were distributed. Only one went outside France; it was divided between Dr. J. Vassal for his campaign against trypanosomiasis in Africa, and Drs. A. Bigot and H. Velu for their research on blastomycosis in animals and man. The Prince of Monaco prize of 100,000 francs was divided between Prof. E. Hedon, Montpellier, physiologist, and Prof. E. Laguesse, Lille, histologist, for their thirty years of persevering research on the pancreas which preceded, prepared and rendered possible the isolation of insulin. Laguesse first demonstrated that the islands of Langerhans represented the endocrine gland of the pancreas. The Audiffred prize "for a sovereign remedy for tuberculosis" was not awarded.

Deaths in Other Countries

Gen. **E. Damianovich,** Buenos Aires, of the medical staff of the Argentine army, aged 82.——Dr. **Louis Mégevand,** professor of legal medicine, Geneva, aged 65.——Dr. **G. Maunoury,** Chartres, member of the lower house from his province and ex-president of the French Surgical Society, aged 76.——**Dame Louisa B. Aldrich-Blake,** dean of the London School of Medicine for Women, consulting surgeon to the Royal Free Hospital and for women patients at the Herbert Hospital, Woolwich, formerly vice president of the section of obstetrics and gynecology, British Medical Association, Dame commander in the order of the British Empire; Dec. 28, 1925, at Nottingham Place, Marylebone, England. ——**Richard Caton,** emeritus professor of physiology and consulting physician, Royal Infirmary, Liverpool, chosen in 1907 Lord Mayor of Liverpool, aged 83.——**John Gray McKendrick,** emeritus professor of physiology, Glasgow, author of a textbook of physiology, and a frequent contributor to scientific journals, January 2, aged 84.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Jan. 9, 1926.

Dame Louisa Aldrich-Blake

Dame Louisa Aldrich-Blake, a woman surgeon, has died at the age of 60. Her professional distinction and her work in the war gave her a special place in the medical world. Her career as a student at the University of London, where she was the first woman to obtain the degree of Master of Surgery, was distinguished. Entering the Royal Free Hospital (London School of Medicine for Women), she took the London M.B. in 1892 with first-class honors in medicine and obstetric medicine; the B.S. in 1893, with first-class honors in surgery and qualifying for the gold medal; the M.D. in 1894, and M.S. in 1895. She joined the staff of the Royal Free Hospital as surgical registrar and anesthetist, and was afterward house surgeon, clinical assistant, senior assistant to outpatients, and surgeon to the New Hospital for Women (Elizabeth Garrett Anderson Hospital). As dean of the London School of Medicine for Women, she exercised an influence on generations of women medical students. She was also one of the first medical women to practice general surgery. She contributed an article on "Pain as a Symptom of Pelvic Trouble" to the "Practical Encyclopaedia of Midwivery and Diseases of Women." On the outbreak of the war, she immediately helped to collect stores and equipment for a group of medical women prepared to go to Brussels. The rapid advance of the Germans prevented the establishment of a hospital there, and in the autumn the unit began work at Chateau Tourlaville, near Cherbourg, whither numbers of Belgian and French sick and wounded soldiers were being brought by sea. She worked at this hospital during the Christmas vacation of 1914. In August and September, 1915, she went out under the Anglo-French Red Cross to the hospital at Royaumont for French soldiers under the charge of Miss Ivens, M.S., and a staff of British medical women and nurses. She relieved Miss Ivens of a good deal of operating work, and this service she repeated in August and September, 1916. In the spring of 1916, when medical women were welcomed for service with the Royal Army Medical Corps in various places, she circularized all the women on the Medical Register and enlisted eighty, who were sent to hospitals in Malta, Egypt and Saloniki. In October, 1916, she was informed at the war office that at least fifty more medical women were wanted for service in hospitals in England, and she secured large numbers of the younger graduates.

The "Heart" of the Plant: Sir J. C. Bose's Latest Discoveries

Sir Jagadis Chandra Bose, F.R.S., the Indian scientist, has announced at Calcutta the second of three remarkable discoveries he has recently made with regard to plant life, and given a demonstration of the "heart beats" of plants with delicate instruments that he has invented. Thirty-two years ago he began his researches. He found that inorganic substances exhibited fatigue similar to the fatigue of animal muscles, and that the fatigue in both was removed after a period of rest. This led him to investigate the characteristics of the simpler forms of life, as shown by plants. After long researches he was able to prove what he was convinced of before—that the life mechanism of the plant is identical with that of the animal. He discovered how plants may be shown to respond to stimuli, and arrived at the following conclusions, which he demonstrated on the eighth birthday of the institute in Calcutta which bears his name: The plant possesses a highly differentiated nervous system, which can be proved by throbbing pulsations, which take the place of the heart beat of the animal and which show violent spasm exhibited at the crisis of death. By his optical lever he was able to demonstrate the activity of the cells of the plant in the propulsion of sap from the roots of the tree to the topmost leaves, thus solving a problem that had baffled inquiry for 200 years. The location of the heart of the plant was made by means of an electric probe in circuit with a sensitive galvanometer. Bose introduced the probe step by step across the stem; as soon as it came into contact with the pulsating layer, an electric response was received and recorded by the galvanograph. Each active cell during its phase of expansion absorbs water from below, and expels it upward during the phase of the contraction. Bose likens the heart of the plant to the elongated heart of some of the lower animals, such as the earthworm, in which peristaltic action propels the circulating fluid. To measure the heart beat of the plant, which is less than a millionth of an inch, it was necessary for it to be enormously magnified, which is done by Bose's magnetic amplifier. A mirror is attached to the astatic magnetic system, the reflected beam being thrown on a screen or photographed on a film. All this Bose performed before his audience, which was able to see how chloroform, for instance, at first immensely excited the plant, stimulating it to great vigor. Then came the death spasm. Rapidly and spasmodically the beam of light fell until it came to rest, indicating that the plant had died.

The Bose Institute, which lies in the center of one of the busiest industrial quarters of Calcutta, is a beautifully designed building in Indian style. It consists of a large and acoustically perfect lecture or demonstration room, with numerous laboratories. Bose's great pride is that his institute is entirely Indian, in inspiration, in personnel, in architecture, and in craftmanship. On one side of a quiet garden quadrangle, a new building is rapidly appearing. It is designed to be the first of a series of hostels which Bose proposes to erect for his students. These hostels, designed in typically Eastern style, are intended to house students from all over the world, whom it is the ambition of the founder to attract to Calcutta. It is probable that Bose will spend a considerable portion of next year in Europe. He has invitations to lecture at the Sorbonne and in Berlin.

Measles Epidemic in London

A serious epidemic of measles is raging in London. The percentage of young people affected in a number of districts is high. There have been 115 deaths from measles in London in four weeks, out of 221 in the seventy large cities.

Educative Campaign as to the Care of the Teeth

The dental board of the United Kingdom, which acts under the authority of the privy council and which occupies toward dental surgeons a position similar to that of the general medical council in regard to physicians, has been so greatly impressed with the evil effects on the health of the nation arising from the bad state of the teeth of the public at large, the ignorance and apathy among parents in regard to the necessity for the proper care of their children's teeth, and the lack of facilities for preventive dentistry, that it has determined to carry out a campaign with a view to educating the public in the importance of oral hygiene and strengthening the hands of those public bodies responsible for the health of the country. The board proposes to cooperate with existing associations and societies interested in the welfare of the community, and is prepared to provide lectures, cinema films, lantern slides and literature. A circular has already been prepared, pointing out that a sound and clean set of teeth is essential to health and to the appearance of an individual. The information is given that if the first teeth are diseased the permanent teeth will almost certainly also be diseased.

Starchy foods, such as bread and potatoes, are incriminated as being the cause of the first stage of the decay of the teeth. The practical hints are given that the cleansing of the teeth is especially necessary at night, and that the tooth brush should be moved upward and downward. Hard crusts should be given to babies of 18 months, as these clean the teeth and help the growth of the jaws.

PARIS

(From Our Regular Correspondent)

Jan. 18, 1926.

Léon Bourgeois and His Antituberculosis Campaign

The managerial council of the Comité national de défense contre la tuberculose met a few weeks ago at the Ecole des infirmières visiteuses, under the chairmanship of Professor Calmette. The meeting was devoted chiefly to honoring the memory of Léon Bourgeois, recently deceased. Léon Bourgeois devoted his life to the realization of two compelling ideas, arbitration among the nations of the world and mutual fellowship among all mankind. There is scarcely a social movement the organizers of which have not had recourse to his advice, whether it concerned the organization of labor, amelioration of the housing situation, infant welfare, or the crusade against syphilis, alcoholism and particularly tuberculosis. To him more than to any one else we owe the organization of the antituberculosis movement, which is now functioning with full force. The work accomplished by this movement has been recently outlined by G. Poix, editor-in-chief of the *Revue de phtisiologie médico-sociale.*

The crusade against tuberculosis that Léon Bourgeois preached began with the creation, in 1903, of the permanent commission to combat tuberculosis, which was appointed by the government to determine the administrative and legislative measures that should be adopted to prevent the extension of the disease. To the work of this commission Bourgeois contributed indefatigably. He realized that the main effort of the campaign should be directed toward prophylaxis, and that curative treatment of patients should be secondary. He pointed out that the state, the departments and the communes should assume the duty of assisting the tuberculous, of protecting healthy individuals against the tubercle bacillus, the direct cause of the disease, and also against the indirect causes, such as ignorance in matters of hygiene, bad conditions of work, unhealthy dwellings and insufficient food. Bourgeois emphasized the features of the work that were particularly urgent: the medical inspection of schools, sanitary measures applicable to dwellings, and the prophylaxis of tuberculosis in government administrations.

When Bourgeois became a member of the supervisory council of the Assistance publique, he undertook a campaign in favor of the isolation of tuberculous persons in hospitals and the creation of special services for their accommodation. He explained to the supervisory council the need of creating various groups or societies all acting together under a common head. He recommended the establishment of a special dispensary for the examination of tuberculosis suspects, and where those who could be safely cared for at home could be followed up and counseled. He suggested further the creation of a special hospital service to which could be admitted such patients as could not safely be cared for at home or in a Paris hospital. Such a service could be annexed to the dispensary, after the manner of a suburban hospital-sanatorium.

Bourgeois requested the immediate introduction of what he termed "the Laënnec group"; that is to say, the creation of a dispensary to be connected with the Laënnec Hospital, and a special service of 250 beds for tuberculous patients in the hospital itself. Bourgeois' program resulted in the creation of the Léon Bourgeois dispensary and of two special services for tuberculous patients, connected with the Laënnec Hospital and under the direction of Léon Bernard and Rist, respectively, the whole constituting the chief examination center in Paris for tuberculosis suspects. Other similar institutions were established, and thus was organized the far-reaching antituberculosis movement carried out by the Assistance publique de la Seine, during the last twenty years.

Then came the war. The inadequate medical examinations led to the mobilization of many tuberculous persons, whom, later, it was necessary to dismiss from the service. These men received no pension, and, deprived of assistance and entirely ignorant of hygiene, they became a source of contagion. Their plight and the menace they were to others aroused the interest of Landouzy (among others), who addressed the permanent commission with a cry of alarm in favor of those whom he termed "the lung wounded." He communicated his anxiety to Léon Bourgeois, who aided him with all the weight of his authority and influence, and, through the combined efforts of these two men, the first steps were taken toward providing the needed assistance. Parliament, through the initiative of M. André Honnorat, voted an appropriation of 2,000,000 francs for the aid of military men dismissed from the service on account of tuberculosis, and, in a few months, through the activities of Brisac and Léon Bernard, the so-called sanitary stations were established, where tuberculous discharged men were received, cared for and given the necessary prophylactic education.

In the chief city of each department a committee was appointed to take charge of soldiers discharged from the service for tuberculosis, with a view to providing them with all forms of assistance needed, whether financial, moral or educational.

The committees made use of the visiting nurses, for the training of whom a special school was opened. A central committee was created at Paris, composed of members of the permanent tuberculosis commission and other leading men of Paris. Léon Bourgeois became the president and the pivotal force of the central committee. He prophesied that, while the ranks of the army fighting tuberculosis were at present thin and hastily thrown together, after the war there would be a more powerful organization, which would not confine its activities to the discharged soldiers but would include the whole civilian population, and his prophecy has been realized.

While the departmental committees were being organized, a law was passed in April, 1916, termed "Loi Léon Bourgeois," providing for the establishment of dispensaries of social hygiene and antituberculosis prophylaxis. Thus began the development in France of the essential institutions of which Calmette had been the inaugurator.

After the war, the central committee adopted the name of Comité national de défense contre la tuberculose and extended its activities so as to include the civilian population. The Comité national strengthened its position by its collaboration with the Rockefeller Mission, the experience of which, gained during its five years of munificent service throughout France, proved exceedingly valuable.

Out of these combined efforts systematically directed was born the French antituberculosis organization with its 580 dispensaries and 32,000 beds for tuberculosis patients scattered throughout France.

The present work is the logical outgrowth of Léon Bourgeois' activities. The part that he took in the antituberculosis campaign, which is only one of the many phases of his beneficent activities, is sufficient in itself to entitle him to the admiration and gratitude of those to whom he has shown the way and who have been chosen to continue the work.

RIO DE JANEIRO

(From Our Regular Correspondent)

Dec. 15, 1925.

New Tuberculosis Society

The physicians employed in tuberculosis work by the national department of health have organized the Society for the Study of Tuberculosis. The following officers were elected: Dr. Placido Barbosa, chief of the tuberculosis division, president; Dr. Ary de Lima, secretary; Dr. Genezio Pitanga, librarian. This society differs from others now existing here in that its chief aim is to keep its members posted on scientific developments as related to their specialty. It therefore adopted for this purpose the plan in force at the Oswaldo Cruz Institute. Any papers appearing on tuberculosis are divided each fortnight by the president among several members, who must abstract and discuss them at the next meeting of the society. In addition, original reports will be read, these to be published with the discussions in a quarterly bulletin.

Rat Spirochetes

Dr. A. Lins submitted a report to the Rio Medical Society on the presence of *Leptospira icterohemorrhagiæ* in the city rats. His research was conducted according to the methods in use elsewhere. As a result, he found the organism in rats from different places in Rio. The occurrence of infectious jaundice is therefore a possibility at any time in the future.

Hydrocephalus

Dr. W. Pires described before the Brazilian Society of Neurology, Psychiatry and Legal Medicine a rather interesting case of hydrocephaly in a child aged 9 years. At birth, there was noticed a certain disproportion between the relatively small face and the enormous skull. This has progressed until reaching its present monstrous aspect. Lumbar puncture showed a very high pressure. Nonne, mastic and benzoin spinal fluid tests proved positive, thus revealing the syphilitic nature of the trouble. A roentgen-ray examination showed flattening of the sella. The heavy weight of the head makes walking difficult. There is mental backwardness.

Antityphoid Vaccination by Mouth

Dr. Teixeira Coimbra described recently at a meeting of the Medical and Surgical Society his experience with oral vaccination as a preventive of typhoid and paratyphoid. His results show that it is at least as efficient as subcutaneous inoculation. It is also easier to use and is better accepted by the people. It should always be used in any epidemic as in some places it is the only method available to health authorities, and perhaps permits of results similar to those obtained with smallpox. Through the large number of persons inoculated by mouth at Aracajú, Dr. Teixeira intends to verify the duration of the immunity, the available data already suggesting its being equal to that produced with the subcutaneous route.

Neurorelapses in Syphilis

Dr. G. de Moura Costa described at the last meeting of the Society of Neurology a peculiar case of syphilitic nerve relapse. A patient had a chancre which healed following two injections of neo-arsphenamine. He then gave up treatment. A month afterward, the patient was amazed at the presence of right peripheral facial paralysis, decreased hearing, headaches and slight dizziness. An eye examination made by Dr. B. de Cunha showed choked disk. The lumbar puncture revealed high cerebrospinal pressure; the Wassermann and lymphocytosis tests were positive; all clinical tests were negative. Among Moura Costa's series of some 300 cases of nerve relapses, this is the first one of optic tract involvement, these lesions usually exhibiting a preference toward the facial and auditory nerves. The choked disk and eye disturbances do not always parallel each other. The papilledema may be well tolerated for a long time until the eyesight decreases, and the neuritis turns rapidly into atrophy. Such a possibility demonstrates the value of a lumbar puncture and an ophthalmologic examination in all cases of high intracranial pressure, this being compulsory in the neurosyphilis service of the Gaffrée-Guinle Foundation.

BUDAPEST

(From Our Regular Correspondent)

Jan. 1, 1926.

Virchow, as Censor

Dr. Imre Berczeller, lecturer to the Budapest University, and a great adherent of Virchow, in a memorial article in the *Gyogyaszat*, writes that he must acknowledge that Professor Virchow was harsh in his treatment of candidates. This is borne out by Professor Schleich in his memoirs entitled "Besonnte Vergangenheit." He relates here that he worked in the institute of Virchow for six half-years. He bore the greatest admiration for Virchow, and his father was Virchow's personal friend. Although he reveres his late master, he sharply condemns the professor's rage when he experienced a certain kind of ignorance on the part of a candidate. "I have been a witness," he writes, when a candidate displaying gross ignorance was interrupted by Virchow: "Stop! Whom do you the more resemble, your father or mother?" The candidate answered confusedly: "I believe my mother." Thereupon, says Schleich, Virchow shocked us all by exclaiming, "Alas, poor woman!" In order to atone for this insult, Virchow passed the deficiently prepared candidate, who, in his joy at the unexpected result, pardoned the offense. Schleich relates another story which shows Virchow in an etymological blunder. Virchow asked a candidate the origin of the word "serum." The candidate did not know and failed. Professor Bardeleben, who was an uncle of the candidate, was annoyed at the outcome, and at a professorial banquet questioned Virchow about it. Virchow responded that the origin of the word serum must be known. Bardeleben asked all the great scientists present whence the word serum originates, and no one knew. Thereupon Virchow, with a sardonic smile, explained the origin, and explained it erroneously. The point is at best a controversial one.

The whims of some censors are generally known, and as long as they are manifested only by eccentric questions may be overlooked, although they may be inconvenient to others. For instance, in Budapest University, the professor of physics once asked, "Do you see that chambermaid in the fourth story window in the opposite house?" On receiving an affirmative answer, he asked, "What has she got?" The candidate was expected to respond, "She has potential energy." This sort of thing may be pardoned merely as a joke which is slightly out of place. But if the censor deliberately offends a candidate as Virchow did, it is to be condemned, even if it is done by Virchow.

Students of the present era cannot sufficiently appreciate Virchow, says Berczeller. His works were of the greatest importance in the second half of the nineteenth century, and placed the medical sciences on entirely new foundations. He worked and wrote extraordinarily much. He took part in every medical question, and what he said was not regarded as an opinion but as a decision. He could spare time to deal intensively with all branches of medical sciences; he was responsible for achievements in anthropology and archeology; he was involved also in politics, and was a member of the German Reichstag.

A man who has run such a phenomenal career, and could secure for himself such a unique position in the scientific world, must have been endowed with extraordinary mental

abilities; therefore, it is difficult to understand how such a man could insult his candidates. Even he, the pronounced genius, wrongly comprehended the task of a censor. The censor is trusted by the state to examine and give his opinion as to the satisfactoriness of the knowledge of a candidate for the successful practice of medicine. To decide this within twenty or thirty minutes, and sometimes, in less time requires great practice and still greater good will. Such cases as those described above would not happen if censors would recall the agonizing conditions that they themselves lived through when they sat before their examiners.

Postgraduate Lectures on Pulmonary Tuberculosis

Last month Baron Alexander Koranyi, professor of clinical medicine at the Budapest University, gave a postgraduate course in two Budapest consumption sanatoriums. The course, chiefly intended for country practitioners, attracted an unexpectedly great number. The list of lectures was as follows: 1. Introductory address, by Professor Koranyi. 2. The pathologic anatomy of pulmonary tuberculosis. 3. Puerile tuberculosis (with practical exercises). 4. The diagnostics of pulmonary tuberculosis (with practical exercises). 5. The spontaneous cure of pulmonary tuberculosis. 6. The pathology and therapy of cavities. 7. The therapeutics of tuberculosis. 8. The prognosis in cases of pulmonary tuberculosis. 9. The roentgen-ray diagnostics and therapeutics of pulmonary tuberculosis. 10. The climatic and physical treatment of tuberculosis. 11. The surgical treatment of pulmonary tuberculosis. 12. The diagnostics and therapeutics of surgical tuberculosis. 13. The pathology and therapy of laryngeal tuberculosis. 14. The present state of the study of immune therapy in pulmonary tuberculosis. 15. The rôle of tuberculosis dispensaries in the fight against tuberculosis. 16. The organization for the prevention of tuberculosis in Hungary.

Satisfaction to a Senior Physician

The board of the Jewish community of the city of Budapest, as maintainer of a big and leading hospital, dismissed from service one of the senior physicians of its hospital, who had been connected with it for more than a score of years, on the accusation of a young girl. Dr. Alexander Banyai, the head of the outpatient department of the hospital, referred a nonpauper patient, a girl, to whom he duly had given first aid, to a private physician for the continuation of treatment, arguing that the outpatient department of the hospital is intended for the poor and indigent only. By so doing he complied with the demand of the medical profession of the whole country, which suffers at present from the disastrous economic crisis. He complied also with the order of the management of the hospital itself, which informs the public that only poor patients are allowed gratuitous treatment. The board of the Jewish community did not give a hearing to Dr. Banyai, before dismissal, despite the fact that the medical board of the hospital had approved Dr. Banyai's conduct. The interdistrict committee of the Hungarian Medical Association has thanked Banyai for his conduct and expressed the hope that the staff of the Jewish Hospital would give satisfaction to Dr. Banyai. In this case intervention by the medical association would be superfluous. The dismissal was revoked, with apologies.

Fatal Accident to a Medical Man

Dr. Stephan Farago, aged 28, while making a screen examination in the roentgen-ray clinic last week, touched a high tension wire and was instantly killed.

Anniversary of Alexander Koranyi and Emile Gross

Dr. Alexander Koranyi and Dr. Emile Gross were honored on the twenty-fifth anniversary of their professorships in Budapest University. The former is well known, particularly for his study of the lowering of the freezing point of urine, and by reason of his experiments with benzene in the treatment of leukemia. The latter, professor of ophthalmology and member of almost all foreign medical and scientific societies, became universally known in the international medical congress held in Budapest in 1909. Both professors were presented by their late pupils with the collection of their works. The 326 page issue of the "Orvoskepzes" (Postgraduate Medical Teaching) which is edited by professor Emile Gross was wholly devoted to articles written by the pupils of Koranyi, who number about fifty. Koranyi's portrait was unveiled in the lecture room of his clinic. In Gross' clinic, medals in his honor were distributed.

PRAGUE

(From Our Regular Correspondent)

Dec. 31, 1925.

Unusual Muscular Control

Prof. Charles Weigner recently demonstrated to the Association of Czech Physicians in Prague a man who shows remarkable muscular control. He is 51 years old and is making his living from his unusual abilities. At the age of 14, as the result of typhoid, he developed severe constipation. In order to overcome this he began to exercise his abdominal muscles. Now he can contract separately the upper and lower portions of the abdominal wall, bring about waves of muscular contractions running along the abdominal wall, and even contract separately the different portions of the individual abdominal muscles. He can control the muscles around the Adam's apple, and can imitate scoliosis. By contracting the left half of the diaphragm he can push the heart into the median line, where it can be easily seen below the sternum. He masters his heart rate indirectly by imagining different situations. Through autosuggestion of cold, he has achieved the power of contracting the cutaneous muscles. Of unusual interest is his ability of dilating the pupil of his left eye. Most curious is his trick of contracting one half of his face into a smile and the other one into a sad expression. He has a 7 year old daughter who has learned most of the tricks. This case represents, apparently, inherited ability to control muscles in a more extensive degree than is usual.

Death of Znojemsky

Czech medicine lost recently the fifth of its leading professors. Dec. 11, 1925, Prof. J. Znojemsky, chief of the surgical department of the Czech polyclinic in Prague, died. He was to have been appointed to the chair of surgery after the death of Professor Kukula, whose most prominent pupil he was. Born in 1873, he obtained his degree in medicine at the Prague Czech Medical Faculty. In 1900 he entered the surgical clinic of Professor Maydl in Prague, and when Professor Kukula became the chief of the clinic in 1904 he became his assistant. He remained for fourteen years in this position. In 1909 he became lecturer, and in 1913 assistant professor of surgery. In 1921 he was charged by the government with the organization of the third surgical clinic at the Czech Prague Medical Faculty, but his illness prevented the realization of this task. His specialty was bone and joint surgery. He wrote a voluminous monograph on fractures and luxations. He was interested in the embryology of the intestinal tract. He published a series of papers on the development of intestinal diverticula, on the development of the processus vermiformis, and on other subjects. He took part in the studies of Professor Kukula on the operative treatment of appendicitis. The part of Kukula's monograph on appendicitis that deals with pathologic anatomy is based on Znojemsky's studies. As a teacher he was greatly appreciated by his students. The character of the work in the surgical department of the polyclinic dealt with those parts of surgery which the general practitioner needs in his daily life.

Trachoma

The interest of the health committee of the League of Nations in trachoma has stimulated similar study in Czechoslovakia. Although trachoma is a notifiable disease, this notification does not give an accurate idea of its spread because of its chronic character. Therefore the Czech Prague Ophthalmologic Clinic has analyzed its material since 1912. A similar study was made in 1890 by Dr. Reisinger and in 1901 by Dr. Bailoni from the same clinic; so it is possible to compare present conditions with the history. The incidence of trachoma has decreased considerably. In the years 1883-1889, the percentage of trachomatous patients from all the cases in the clinic was 4.04. At present the number rarely exceeds 1 per cent. The lowest figure appears for the year 1916 (0.8 per cent), which is followed by a gradual increase in the last years of the war and in the postwar period. The peak was attained in 1921, when the percentage rose to 1.5. The last years have again witnessed a steady decline. The relative prevalence of trachoma in the different districts has not changed in the course of years. The territory along the Elbe with rich agricultural villages seems to be especially favorable to the spread of the infection. On the other hand, the mountainous districts are remarkably free. Lack of hygienic conditions among the agricultural population is apparently the chief factor favoring the spread of the disease.

Ectopic Heart

Recently the Prague medical profession has seen an otherwise normal boy who was born with complete ectopia of the heart. Only three similar cases are described in scientific literature. The sternum is not developed, so that the bony structure of the thorax is open anteriorly although completely covered with skin. The lobes of the lungs touch each other, so that no space remains for the heart. The heart is completely naked and protrudes through an opening in the skin below the neck in the median line. The aorta and pulmonary artery are fixed in the opening, and the heart undulates on the two vessels. Naturally, the heart suffered from the exposure and it was provided with a glass cover, and is kept warm and moist with a physiologic solution. The anomalous position of the heart is a great obstacle to the blood circulation, and the child cannot live very long. The mother of the child has shown remarkable understanding of scientific research and has consented to close clinical observation of the child. The case presents a rare opportunity for observation of the activity of a human heart. Under the direction of Professor Ostrcil, chief of the Czech Gynecologic Clinic, observations are being made on the heart and especially the different phases of the heart contraction studied with the help of moving pictures. It is anticipated that the combination of direct observation with cardiography will furnish valuable information.

Change in Ministry of Health

On account of recent general elections, a new minister of health was appointed. The retiring minister, Mr. Jan Sramek, has been in office for the last three years. Although not a professional man, he served for many years as a member of the provincial health board for Moravia. In that position he familiarized himself with the administration of medical institutions. During the time of his service he paid especial attention to similar problems. Under him the creation of the state institute of hygiene in Prague was worked out and the first part of the institute opened. He has put into operation the law on the nationalization of health officers to the limited extent that the state finances permit. His favorite fields were health resorts and watering places. In the service he fostered the nonprofessional element in public health work. Being the head of the Catholic party and one of the most powerful politicians of the country, he suffered from lack of time for the needs of his office. Mr. A. Tucny was appointed as his successor. He is also a nonprofessional worker and is prominent in the Socialist party. He has served twice in previous cabinets, having held the office of minister of public works and of minister of posts and telegraphs. He intends that the professional element shall be the backbone of the health service. In the program which the new government has announced, the completion of the institute of hygiene is named first. The government considers second in importance the strengthening of the health service in those provinces where it has not been sufficiently developed, especially in Slovakia and Carpathian Russia. Dr. Jan Semerád was reappointed chief medical officer of the ministry of health.

Health Demonstrations

The idea of health demonstrations is gaining ground in Czechoslovakia. Three years ago a health demonstration was started in Kladno district, near Prague, chiefly as an experiment. It was the first district into which public health nurses have been introduced as a regular part of the official health machinery. Recently, similar projects have been inaugurated or are being prepared. The demonstrations are being conducted under the auspices of a committee appointed by the national council of social hygiene, and representatives of the ministry of health and the ministry of social welfare. The fund for the demonstrations, to which all the participating agencies contribute, is being administered by the Red Cross. While the Kladno demonstration is primarily a demonstration of rural hygiene, a project recently started in Vrsovice, a suburb of Prague, will be a demonstration of public health work in urban communities. Both of these demonstrations have a close relationship to the state institute of hygiene, which also will have a school for the training of public health personnel. The plan is to use the demonstration districts as a training ground for the personnel of the institute. Another demonstration was started in Slovakia in the district of Turc. Sv. Martin, where a new school for health visitors has been established. A similar demonstration is being prepared for the autonomous territory of Carpathian Russia. The Kladno demonstration is being supported by the International Health Board of the Rockefeller Foundation, the plans for the rest have been made in participation with representatives of the foundation.

BERLIN

(From Our Regular Correspondent)

Dec. 19, 1925.

Meeting of the Society of Tropical Medicine

At the recent meeting of the Deutsche Tropenmedizinische Gesellschaft in Hamburg, Plehn (Berlin) discussed immunization against malaria, a field that, owing to the difficulties of research, has lain fallow for some time. He found that paralytics who had been affected with tertian fever were more or less immune later to artificial infections with the same strain of parasite but not to infections with tropical parasites. In tropical malaria, an increased resistance to new infections could be brought about only by means of subtherapeutic doses of quinine and repeated superinfections. It was found that a latent tropical fever of that type could be activated by grafting on the tertian type; yet it seemed to protect, in a measure, against the tertian type. No antibodies could be discovered in the blood. Quinine does not seem to exert an immediate effect on the parasites. The results caused the author to renounce the view that he had previously entertained with respect to the uniformity of malaria parasites. In the discussion that followed, the absence of antibodies in the blood was confirmed by many, but in some instances a different outcome of similar experi-

ments on malaria immunity was reported. Possibly with the plasmodia as with other protozoa we must distinguish between immunity to a given strain and immunity to a given species. The method by which an immunity to tropical malaria may be secured is supposed to create a disposition to blackwater fever.

In the field of helminthology, Fülleborn made two addresses. Dealing with "The Mode of Infection with Ascaris," he gave an account of the migrations of ascarid larvae in the host. In a second address, he discussed "Cutaneous Reactions in Helminth Affections." Whereas the entrance of Strongyloides larvae causes only a temporary itching in the skin of normal persons, in hypersensitive Strongyloides carriers it produces wheal formation and itching, persisting for many days. Similar manifestations are sometimes observed in the anal fissure, being probably caused by larvae that have developed there and have bored into the skin. Pulverized Strongyloides larvae in the same persons, placed in superficial incisions, cause large urticarial wheals. This cutaneous reaction is apparently specific, though, to be sure, it may be caused, to a somewhat less extent, also by ascaris antigen. The method could possibly be put to practical use in tropical helminth affections.

Winkel (Java) gave an account of the methods employed to combat frambesia, or yaws, in the Dutch East Indies. He explained the organization of the campaign, and referred to the substantial results.

Ziemann (Berlin) dealt with the clinical aspects of gangosa, or rhinopharyngitis mutilans, which is thought to be connected with frambesia, although the connection has not been fully established, nor has its differentiation from other similar affections been clearly shown. One point was that our knowledge of the relations between frambesia and syphilis is by no means complete.

In several addresses, questions pertaining to specific therapy and chemotherapy were treated. Giemsa (Hamburg) discussed the chemotherapeutic value of two derivatives of quinine.

Röhl (Elberfeld) spoke on the action of substances of the Bayer 205 series. Taking as his point of departure the formula given by Fourneau, he stated that slight changes in the molecule cause a change in the specific action, so that the substances become effective against spirochetes. Oxy and amido groups are not necessary for securing a bactericidal effect, nor is the naphthalene nucleus needed. Aromatic derivatives of urea may be effective, but sulpho groups with aromatic nuclei are needed. They probably form with basal cell components (especially, nuclear components) sparingly soluble salts and thus develop their effective action. In fact, they are filled with simple basic protein substances highly diluted. The protein-dye compound is probably reversible. Therefore, a longer sojourn of the substance in the organism of the host is necessary, which is facilitated by the size of the molecule. The remedy is bound to the cells and the blood fluid. The optimal distribution is probably not attained in all species of animals, so that differences in action result. Through the effect of the preparation on the cells of the parasites it is assumed that cell division is prevented and that the parasite succumbs finally to the defense forces of the body.

H. Schmidt (Dresden) gave a survey of the trivalent and pentavalent antimony compounds that he has made researches on, and explained their action. As indications, he mentioned, besides trypanosomiasis, leishmaniosis and the trematode affections, filaria, trichinosis, leprosy, malaria, spirochetes, multiple sclerosis, pemphigus tropicus, and venereal granuloma. In tropical gametes and in filaria, favorable action has not been observed, but in bilharziasis very good results were secured.

Marriages

WILBUR A. RICKETTS, Dayton, Ohio, to Miss Sara Louise Sparling of Waterville, in Toledo, Dec. 26, 1925.

JAMES ELDRIDGE BRADFORD, Spring Place, Ga., to Mrs. Aloe King Brown of Cleveland, Tenn., Dec. 22, 1925.

JOHN OTIS CLETCHER, Tuscola, Ill., to Miss Jessie Irene Wilson of Flushing, Ohio, January 26.

CHESTER RUSSELL, Artesia, N. M., to Miss Esther La Due of Alamogordo, Dec. 25, 1925.

ROBERT A. HAMILTON, Hillsboro, Ill., to Miss Ida Dworsach of Litchfield, January 2.

EDWARD HUNT RAY, Lexington, Ky., to Miss Louise Moore of New Orleans, January 5.

Deaths

John Mallory Lee ⊕ Rochester, N. Y.; University of Michigan Homeopathic Medical School, Ann Arbor, 1878; member of the American Radium Society; past president of the Monroe County Medical Society and the American Institute of Homeopathy; proprietor of a hospital bearing his name; state medical examiner under Regents of the State of New York, 1895-1907; one of the authors of a textbook on surgery; aged 73; died, January 11.

Oliver Louis Pothier, New Orleans; Medical Department of the Tulane University of Louisiana, New Orleans, 1889; member of the Louisiana State Medical Society; formerly demonstrator of microscopical anatomy, bacteriology and pathological anatomy and assistant professor of pathology at his alma mater; served in the M. C., U. S. Army, during the World War; at one time on the staff of the Charity Hospital; aged 61; died, January 23.

Charles R. Shinault ⊕ Little Rock, Ark.; Medical Department of the Tulane University of Louisiana, New Orleans, 1890; past president of the Arkansas Medical Society and the state board of medical examiners; ship surgeon for the United Fruit Company, plying between New Orleans and Honduras; aged 58; died, January 11, at New Orleans.

Haines C. Thatcher, West Danby, N. Y.; Hahnemann Medical College and Hospital, Chicago, 1889; member of the Medical Society of the State of New York; aged 63; died, January 19, of injuries received when the automobile in which he was driving was struck by a train.

Flora Matina Tanquary Brian, Bellmont, Ill.; Medical Department of the University of Illinois, Chicago, 1904; member of the Illinois State Medical Society; aged 48; died, Dec. 29, 1925, at St. Mary's Hospital, Evansville, Ind., of injuries received in an automobile accident.

Nelson Warner Cady, Logansport, Ind.; Bellevue Hospital Medical College, New York, 1877; member of the Indiana State Medical Association; on the staff of the Northern Indiana Hospital for Insane; aged 75; died, January 18, following an appendectomy.

John Benjamin Powers, Wake Forest, N. C.; Long Island College Hospital, Brooklyn, 1878; formerly professor of bacteriology and pathology, Wake Forest College School of Medicine; aged 71; died, Dec. 31, 1925, of heart disease.

Paschal Y. Pursifull, Whitesburg, Ky.; Hospital College of Medicine, Louisville, 1904; member of the Kentucky State Medical Association; formerly county health officer; aged 46; died, January 12, of pulmonary tuberculosis.

Andrew Louden Chapman, Normal, Ill.; Cincinnati College of Medicine and Surgery, 1877; Civil War veteran; aged 78; died, January 12, at St. Joseph's Hospital, Bloomington, of complications, following a fracture of the hip.

Major Van Matre, Keota, Okla. (licensed, Oklahoma, under the Act of 1908); member of the board of education and bank president; aged 52; died, January 8, at a hospital in Fort Smith, Ark., following an appendectomy.

Clifford Walcott Randall, Worcester, Mass.; University of Pennsylvania School of Medicine, Philadelphia, 1895; member of the Massachusetts Medical Society; aged 65; died, Dec. 27, 1925, at the Worcester Hospital.

⊕ Indicates "Fellow" of the American Medical Association.

James Frank Bean, Brundidge, Ala.; Medical Department of the Tulane University of Louisiana, New Orleans, 1910; member of the Medical Association of the State of Alabama; aged 36; died, January 7, of pneumonia.

Robert C. Clarke ✠ Pittsburgh; University of Wooster Medical Department, Cleveland, 1881; formerly member of the board of health and board of education; aged 70; died, January 6, of cerebral hemorrhage.

John Moultrie Anderson, Fayetteville, Tenn.; University of Georgia Medical Department, Augusta, 1860; member of the Tenneseee State Medical Association; aged 87; died, Dec. 13, 1925, at New Herman.

Halbert Charles Hubbard, Rutland, Mass.; Boston University School of Medicine, 1906; on the staff of the Rutland State Sanatorium; aged 43; died, January 8, following an appendectomy.

Howard Smith McClure, Bucyrus, Ohio; Ohio State University College of Medicine, Columbus, 1918; member of the Ohio State Medical Association; aged 32; died, January 16, of pneumonia.

George H. Dow, Chehalis, Wash.; Chicago Homeopathic Medical College, 1885; member of the Washington State Medical Association; aged 64; died, Dec. 31, 1925, following a long illness.

Frank Howard Parker, Hamilton, Mont.; College of Physicians and Surgeons, Boston, 1891; member of the Massachusetts Medical Society; aged 70; died, January 10, of heart disease.

John A. Hogue, Jr. ✠ Holcomb, Mo.; Kentucky School of Medicine, Louisville, 1907; past president of the Dunklin County Medical Society; aged 42; died, January 14, of heart disease.

Samuel P. Low, Santa Barbara, Calif.; Hahnemann Medical College and Hospital of Philadelphia, 1889; member of the California Medical Association; aged 62; died, Dec. 6, 1925.

Nathaniel Van Voorhis Graves ✠ Chicago; Loyola University School of Medicine, Chicago, 1916; aged 36; died, January 22, at the West Side Hospital, of carcinoma of the colon.

Francesco Marino, Brooklyn; University of Naples, Italy, 1905; member of the Medical Society of the State of New York; aged 47; died, January 8, at the Broad Street Hospital.

Henry Carroll Frie, Duncan, Okla.; Bellevue Hospital Medical College, New York, 1895; member of the Oklahoma State Medical Association; aged 73; died, January 4.

John J. Slattery, Washington, D. C.; Howard University School of Medicine, Washington, 1892; also a pharmacist; aged 59; died, January 4, of cerebral hemorrhage.

Arthur W. Brewster, Brooklyn; Long Island College Hospital, Brooklyn, 1881; aged 63; died, Nov. 4, 1925, at the Kings County Hospital, of cirrhosis of the liver.

Wilbert Samuel Davis, Sanbornville, N. H.; Medical School of Maine, Portland, 1891; member of the New Hampshire Medical Society; aged 61; died in January.

Arthur Silver, Sidney, Ohio; Medical College of Ohio, Cincinnati, 1908; member of the Ohio State Medical Association; aged 45; died, January 10, at Harvey, Ill.

Adolph E. Scheble, Toledo, Ohio; Cleveland University of Medicine and Surgery, 1870; Civil War veteran; aged 77; died, January 11, of cerebral hemorrhage.

Robert Mercer Evans, Minto, N. D. (licensed, North Dakota, 1885); member of the North Dakota State Medical Association; aged 81; died, January 8.

Thomas H. Johnson, Kansas City, Kan.; California Eclectic Medical College, Los Angeles, 1887; aged 81; was shot and killed by a robber, Dec. 23, 1925.

James William Simpson, Owenton, Ky.; Kentucky School of Medicine, Louisville, 1881; aged 74; died, January 13, of a fractured hip, received in a fall.

August Charles Pfenning, Brooklyn; Medical Department of Columbia College, New York, 1889; aged 62; died, January 8, of cerebral hemorrhage.

William G. Wheeler, Racine, Wis.; Rush Medical College, Chicago, 1881; for five years member of the board of education; aged 68; died, January 17.

Henry Ward Clifton ✠ Watseka, Ill.; Medical Department of the University of Illinois, Chicago, 1908; also a pharmacist; aged 55; died, January 12.

Richard Victor Fowler, Perth, Ont., Canada; Trinity Medical College, Toronto, 1892; aged 63; died, recently, at the Ottawa (Ont.) Civic Hospital.

Samuel D. Bugg, Groesbeck, Texas; St. Louis Medical College, 1881; aged 67; died, January 10, at a sanatorium in Dallas, of heart disease.

John De Witt Riddell ✠ Salina, Kan.; Kansas City Medical College, 1896; on the staff of St. John's Hospital, where he died, January 5, aged 57.

Harry A. Woodside ✠ Ridley Park, Pa.; Jefferson Medical College of Philadelphia, 1897; aged 54; died, Dec. 17, 1925, at the Taylor Hospital.

William J. Maniss, Vera, Texas; University of Tennessee College of Medicine, Memphis, 1894; aged 67; died, Nov. 14, 1925, of septicemia.

Hugh Aloysius Rodden, Brooklyn; Long Island College Hospital, Brooklyn, 1901; aged 47; died, January 5, following a long illness.

Harry Lincoln Kolseth ✠ Baltimore; Baltimore Medical College, 1912; aged 58; died, Dec. 5, 1925, of arteriosclerosis and hypertension.

Max J. Friedel, Chicago; Rush Medical College, Chicago, 1897; aged 76; died, January 23, of cerebral hemorrhage and arteriosclerosis.

Sarah Gertrude Banks, Detroit; University of Michigan Medical School, Ann Arbor, 1873; aged 86; died, January 10, of pneumonia.

Margaret Trevitt, Wausau, Wis.; Eclectic Medical Institute, Cincinati, 1881; aged 66; died, Dec. 7, 1925, of cerebral hemorrhage.

William Pinkney Sutherland, Creal Springs, Ill. (licensed, Illinois, 1878); aged 78; died, January 9, of cerebral hemorrhage.

Joel Albert Gibson ✠ Port Arthur, Texas; Atlanta Medical College, 1890; aged 56; died suddenly, January 2, of cerebral hemorrhage.

Charles Read Collins ✠ Washington, D. C.; Jefferson Medical College of Philadelphia, 1884; aged 63; died, January 6, of uremia.

Elmer E. Bowman, Mount Jackson, Va.; University of the South Medical Department, Sewanee, 1900; aged 52; died, January 7.

Joseph Edward Greene, Augusta, Ga.; University of Georgia Medical Department, Augusta, 1881; aged 66; died, January 12.

Harry Jackson Watson, Winnipeg, Manit., Canada; Trinity Medical College, Toronto, Ont., 1899; aged 59; died, January 13.

Louis Bernard Samaine, Lansing, Mich.; Saginaw Valley Medical College, 1901; aged 48; died, Dec. 23, 1925, of heart disease.

Gustave August Thieme, Cantril, Iowa; Keokuk Medical College, 1893; aged 56; died, January 16, following a long illness.

M. H. Waldron, Naugatuck, W. Va. (licensed, West Virginia, 1885); Civil War veteran; aged 82; died, January 13.

Frank K. Moyer, Schoolcraft, Mich.; Baltimore Medical College, 1897; aged 51; died, January 2, of heart disease.

Robert Low Lane, Somerville, Mass.; New York Homeopathic Medical College, 1872; aged 80; died, January 9.

Frank M. Eccles, Oxford, Md.; College of Physicians and Surgeons, Baltimore, 1881; aged 67; died, January 9.

William E. Harris, Colton, Ore.; College of Physicians and Surgeons, Chicago, 1892; aged 65; died, Nov. 9, 1925.

Horace Loomis Jones, New York; Jefferson Medical College of Philadelphia, 1884; aged 66; died, January 9.

R. L. Burks, Livingston, Tenn. (licensed, Tennessee, 1889); Confederate veteran; aged 83; died, Dec. 3, 1925.

William M. Province, Franklin, Ind.; Miami Medical College, Cincinnati, 1867; aged 79; died, Dec. 9, 1925.

Frederick L. Dougall, Brilliant, Ohio (licensed, Ohio, 1896); aged 63; died, January 15, of heart disease.

John H. Harrison, Tillatoba, Miss.; Memphis Hospital Medical College, 1888; aged 76; died, January 9.

Thomas J. Lyle, Alliance, Ohio; Physio-Medical Institute, Cincinnati, 1882; aged 79; died, January 3.

Nicol Martin Mandl ✠ New York; University of Vienna, Austria, 1891; aged 60; died, January 2.

James Benjamin Long, Abbeville, Ala.; Louisville Medical College, 1882; aged 68; died, January 7.

James M. Spinks, Rockmart, Ga.; Atlanta Medical College, 1879; aged 71; died, January 8.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

FLORENCE FORMULA

Another Kansas City Mail-Order Asthma Cure Fake

"Florence Formula" is another one of the numerous alleged cures for hay-fever and asthma sold on the mail-order plan. It is put out by the Florence Product Corporation, Coca Cola Building, Kansas City, Mo. It is said to have for its president and treasurer Florence H. Shearer, and for its vice president Frank V. Eberhart. The company was established, apparently, under the name Florence Laboratories, although, of course, there were no laboratories, and founded as a trust estate with F. H. Shearer, F. V. Eberhart and W. W. Burgess as the trustees. Later it was incorporated. The records are said to show that when the Florence Products concern was incorporated under the laws of Missouri, it had an authorized issue of three hundred shares of no par value with the following shareholders:

F. H. SHEARER	150 shares
F. V. EBERHART	75 shares
GEORGE A. BREON	75 shares

Whether Florence H. Shearer is an important factor in this particular piece of quackery or is merely the "fall guy" so often employed by the mail-order quacks, we do not know. In 1924 "Eyrone," an eye-cure nostrum, was being sold on the mail-order plan from the same address (Coca Cola Building, Kansas City) as the Florence Formula, and the public was urged to write to F. H. Shearer. Before that the Eyrone advertisements stated that letters should be addressed to M. B. Smith. In 1923, M. B. Smith was connected with still another mail-order fake, first called the "Re-bild Laboratories" and later the "Whinton Laboratories." This concern, which operated from the present address of the Florence Products Corporation, was featuring at that time two nostrums, "Re-bild" and "Rid-o-fat." One was supposed to make thin people fat and the other to make fat people thin—thus demonstrating how easy it is for mail-order quacks to catch the suckers coming and going.

George A. Breon, who seems to have had seventy-five of the original three hundred shares of the Florence Products Corporation, is said to claim that he has disposed of his interests. One wonders whether the George A. Breon who invested so heavily in this mail-order quackery is the same individual who puts out a line of "ethical proprietaries" that are exploited to the medical profession.

W. W. Burgess, one of the original trustees, is possibly the same W. W. Burgess who was president of a mail-order concern known as the Burgess, Johnson, Webb Corporation, which operates a large number of pieces of mail-order quackery.

Frank V. Eberhart, the vice president of the Florence Products Corporation, is said also to be, or to have been, the secretary of a printing concern of Kansas City. This is the usual combination for those who go into mail-order quackery. Individuals connected with printing concerns or with advertising agencies, or both, find it profitable to espouse quackery. Printing concerns that have had experience in printing the follow-up material for mail-order quacks and advertising agencies that have placed the advertisements for these quacks soon realize that a knowledge of medicine and pharmacy is entirely unnecessary in practicing medicine and pharmacy on the mail-order plan. The only skill needed in mail-order quackery is that of producing plausible "come-on" material and placing advertisements. So far as the medicaments are concerned, they are of minor importance, as large and supposedly reputable pharmaceutical houses can always

Stop Asthma
Choking, Wheezing, Gasping and Short Breath
Sleep Soundly
The First Night
Sleep in Comfort
If you are a sufferer from choking, wheezing, sneezing, hawking, gasping Asthma or Catarrh, you will be glad to learn that your suffering and discomfort can be ended, and you can sleep soundly every night from the first night on. Regardless of your condition or previous experience with "Asthma Cures," I want to send you a full size $1 bottle of the pleasant, scientific Florence Formula absolutely free. Do not confuse this bona fide offer with ordinary free samples. Users commonly report this size Florence Formula gives them real comfort, and stops the trouble within twenty-four hours. All I ask is that if you are satisfied you tell your friends and other sufferers, as I believe this is the best advertising I can have. No obligation—send the coupon below for your free treatment.
FREE
FREE TREATMENT COUPON
F. H. SHEARER, Dept. 2378 A. A., 2233 Grand Ave., Kansas City, Mo.
Please send full size $1 Florence Formula without cost or obligation to me.

be counted on to furnish at short notice the pills or tablets necessary for that unimportant part of the business.

Florence Formula is frequently advertised under the name of "F. Shearer." It is said by authorities consulted that the main investment of the Florence Products concern is that of mailing lists, or, as they are known in the parlance of the mail-order quack, "sucker lists." The company is said to have over one and a half million names. To those sufferers from asthma and hay-fever whose names this concern has on its list is sent the first of a series of form letters in which Florence Shearer says that she is informed that the person written to is a "sufferer from asthma, shortness of breath, wheezing, coughing, etc." She then declares that science has at last perfected an amazing constitutional treatment which she will allow any sufferer the opportunity of trying at her expense. The prospective victim is sent a few tablets, which probably cost at least one cent, and are described as "the regular one dollar size treatment." According to Mrs. Shearer, the "Florence Formula is different." As will be shown in this article, it is not different, but is essentially identical in composition with the "Asthma Tab" swindle recently put out of business by the federal authorities.

A few days after the preliminary letter has been received, the would-be victim gets the second of the follow-up series. In it he is told that the four days' treatment that was sent free would not, of course, cure him, but Mrs. Shearer is happy to announce that he can get the "Full Thirty Day Treatment" at a "special introductory" price of $5. If letter Number 2 is ignored, letter Number 3 comes two weeks later. This is accompanied by the usual farrago of testimonials, and the victim is again urged to send in $5. A week later, if no attention is paid to Number 3, comes letter Number 4 in which Florence Shearer opines that it is lack of money rather than lack of faith which is responsible for the failure of the victim to order Hence:

> "What I can do — and am going to do in your case — is to go right down in my pocket [How masculine!—ED.] and enclose a Credit Coupon Check for $2 for you to use in obtaining the full thirty day Florence Formula treatment — at a cost of only $3 to you."

As we have said so many times, if those who patronize mail-order quacks will only wait, they need never pay the price originally asked for the nostrums, although they will always pay more than they are worth. If Mrs. Shearer's fourth letter still fails to bring in the money, letter Number 5

can be looked for in due course. In this she makes what she calls a "strictly confidential" offer. Like all strictly confidential letters of mail-order quacks, this is printed, doubtless by the tens of thousands, and is sent to every prospective sucker who fails to reply to any of the first four follow-ups. Mrs. Shearer confidentially offers to send the Florence Formula on the deferred payment plan—just as easy to buy an asthma cure as it is to buy an automobile. For a mere $1 Florence Shearer will forward a "regular $2 treatment," and will send subsequent treatments as they are needed—and paid for. If this letter fails to bring home the financial bacon, Florence gives up the matter as a bad job and charges up the printing and postage to profit and loss.

In order that the medical profession and the public might be given the facts regarding this Florence Formula that is "different," orders were sent in for the nostrum and some of the material turned over to the A. M. A. Chemical Laboratory, which gives the following report:

LABORATORY REPORT

"Two original bottles of a preparation labeled Florence Formula for Asthma, Bronchitis, Catarrh, Short Breath, Hay Fever and Allied Ailments (Florence Products Corporation, Kansas City, Mo.) were submitted to the A. M. A. Chemical Laboratory for examination. Each bottle contained mottled grayish white tablets each having an average weight of 0.48 Gm. (7½ grains). Qualitative tests indicated the presence of arsenic, calcium, sodium, potassium, iodide, sulphate, starch, sugar and a substance resembling talc. Emodin bearing drugs, alkaloids, salicylates, and coal tar derivatives were not found. Quantitative determinations yielded the following:

"Arsenic (as arsenic trioxide (As_2O_3))	0.14 per cent
"Calcium (Ca^{++})	5.70 per cent
"Potassium (K^+)	9.91 per cent
"Sodium (Na^+)	0.40 per cent
"Iodide (I^-)	28.72 per cent
"Sulphates (SO_4^{--})	13.56 per cent
"Invert Sugar	2.53 per cent
"Acid insoluble	2.67 per cent
"Loss in Weight at 120 C. (moisture)	6.89 per cent
"Starch and undetermined	29.48 per cent
	"100.00

"From the foregoing, it is concluded that the tablets contain essentially potassium iodide approximately 38 per cent, and an arsenic compound equivalent to 0.14 per cent arsenic trioxide, together with excipients and binders. The arsenic compound was probably added in a form such as 'solution of potassium arsenite'—'Fowler's Solution.' Each tablet contains the equivalent of approximately 0.18 gram (2¾ grains) of potassium iodide and 0.0007 gram (1/100 grain) of arsenic trioxide (equivalent to 1 minim 'Fowler's Solution'). The suggested daily dose of three tablets is equivalent to 0.54 gram (8¼ grains) of potassium iodide and 0.0021 gram (1/30 grain) of arsenic trioxide equivalent to 3 minims of 'Fowler's Solution.'"

From the chemists' report it will be seen that Florence Formula is essentially potassium iodide and Fowler's Solution, just exactly what "Asthma-Tabs," another Kansas City medical mail-order humbug, was found to be when the Association's Laboratory analyzed it. Both arsenic and potassium iodide have been used for many years by physicians in the treatment of certain asthmatic conditions. However, it is one thing for a physician to prescribe two such potent drugs for individual cases that have been the subject of personal examination, and an entirely different thing for mail-order quacks with no medical training to send arsenic and potassium iodide indiscriminately through the mails to any one that these fakers may think has asthma. It is to be hoped that that efficient but overworked branch of the government, the Office of the Solicitor of the Post Office Department, will in due time get around to the Florence Products Corporation and debar them from the use of the United States mails.

The Emotional Dyspeptic.—The man or woman who thinks constantly of what and what not, to eat; who gives careful attention to every little symptom; who constantly "examines his interior when he should be listening to the birds," is in a bad plight. He bids fair to become a nervous or, to use the modern term, an emotional dyspeptic.—Wood, T. D., and Dansdrill, T.: By-Ways to Health, 1925, p. 26.

Correspondence

BERLIN FACULTY AND AMERICAN PHYSICIANS

To the Editor:—THE JOURNAL, January 16, in the department of foreign news, carried an item with the title, "Berlin Faculty Decides Against Official Welcome to American Physicians," copied from a German medical journal. No doubt this was the attitude taken by the faculty of Berlin last fall, but many things have transpired to strengthen our international relations since that time. This month we received assurance from both the German government and the faculty of the University of Berlin that the members of the Inter-State Post-Graduate Assemblies, who will visit Berlin, June 15, 16 and 17, will receive a most hearty welcome. These greetings were received following several months of discussion between the representatives of the German government, the faculty of the university and representatives of this association, especially Dr. Carl Beck, secretary of the foreign assemblies of this organization, who is now in Europe completing the final clinic arrangements for the 1926 assemblies.

The position taken by this organization was, first, that the same spirit of equality and justice enjoyed by the profession of other countries in their relation with one another should be extended to those of the German-speaking countries; secondly, that this association is not affiliated with or responsible for the acts of other medical organizations, and therefore we could not sign any documents or declarations pertaining to other medical bodies.

Following the publication of the article mentioned above, we cabled Professor Bier, the chairman of the Berlin clinic committee of this association, to give us a statement so that we could speak authoritatively. The following is a copy of Professor Bier's answer:

William Peck Berlin, Jan. 21, 1926.
Freeport, Ill.

Under the stated circumstances heartiest welcome. Letter follows.
Bier.

In bringing about this understanding we believe we have advanced largely the spirit of international good fellowship, in which this organization is deeply interested.

WILLIAM B. PECK, M.D., Freeport, Ill.
Managing Director, Inter-State
Post-Graduate Assemblies.

KLIEG EYES

To the Editor:—Recently I investigated the etiology and pathology of Kleig eyes in motion picture studios. The symptoms were so distressing for the time, and of such inconvenient duration, that the persons engaged were at a loss to cope with the situation.

The patients have great photophobia and lacrimation, and even when the trouble is not especially severe, are incapacitated because of their appearance and their inability to look at light. The early stages appeared to be a hyperemia, which, if allowed to continue, or exposed to the studio lights for any time, quickly merged into a mild chronicity, which resolved itself into a type of follicular conjunctivitis. In mild cases I sectioned a few specimens of the engorged and follicular conjunctiva, and found beginning hyperplasia of the interstitial tissue, and the follicles were evidently a lymphoid hyperplasia.

The most effective remedy in early stages seems to be a rather strong, dehydrating agent, such as glycerite of boroglycerin (U. S. P.). In severe cases, when folliculosis had appeared, it was necessary to treat them more energetically with glycerite of boroglycerin. I have never seen a case

that did not respond to this treatment and cold applications, and enclosure in a darkened room for a couple of days. The tear ducts must also be watched, for during the great engorgement the puncta may be occluded, and if inflammatory conditions follow, a closure of the canaliculus, or even dacryocystitis, may ensue.

It seemed to be certain that not only the ultraviolet rays but also some of the visible rays produce this condition. In conjunction with the engineer at the studio, we tried quartz filters shot with cobalt, lead and various other metals, which I do not recall at present, in an attempt to see which would cut out the harmful rays and still allow sufficient illumination for the work.

ALBERT L. BROWN, M.D., Cincinnati.

TESTIMONIALS FOR ANEDEMIN TABLETS

To the Editor:—Please note the circular for Anedemin Tablets which came to my desk today. I was interested enough in this matter to look up the records of the men who signed these testimonials, and I give them to you as my secretary has culled them from the directory:

Bell, David R.: University of Nebraska; homeopathic; born, 1856; licensed, 1885.
Coleman, James I.: College of Physicians and Surgeons, Baltimore; born, 1859; licensed, 1885.
Howell, W. E.: Lincoln Memorial University Medical Department, Knoxville; born, 1880; licensed, 1903; surgeon; member, American Medical Association.
Surrett, I. W.: Medical College of Virginia; born, 1873; licensed, 1908; Fellow, American Medical Association.
House, Albert L.: Yale University Medical Department; born, 1868; licensed, 1895; Fellow, American Medical Association.

It appears very discouraging that three members of the American Medical Association would write boosting letters such as these are, made up of pure balderdash, trying to disguise itself by a cloak of pseudoscience.

With all our advance in requirements of medical education, we yet have things like this. What is your reaction to it? May we ever expect the disappearance of this thing? I fear not, so long as cupidity and superstition remain in the world.

THEODORE DILLER, M.D., Pittsburgh.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

REACTION OF NORMAL PERSON TO TUBERCULIN

To the Editor:—Can you tell me in detail what the reaction to tuberculin, taken internally or injected in the usual way, in large amounts, is in a person who has no tuberculous infection of any kind? In other words, I should like to know the physiologic action of tuberculin in a normal and healthy person. On the average, how large a dose is necessary to produce this reaction? You might state also the authority.

E. S. HALL, Boulder, Colo.

ANSWER.—According to Koch (Weitere Mittheilungen über ein Heilmittel gegen Tuberkulose, *Deutsch. med. Wchnschr.* **16**:1029, 1890), "from three to four hours after the injection, pains in the limbs, depression, tendency to cough, dyspnea, the symptoms rapidly increasing in severity; after five hours, an intense chill lasting almost an hour; at the same time nausea, vomiting and rise of temperature to 39 C.; after about twelve hours the symptoms abated and the following day the temperature sank to normal; a feeling of weight in the limbs and depression persisted for several days, and for the same length of time the point of injection remained red and painful."

Tice's Practice of Medicine **2**:522 states the following: "The generally accepted method of administering tuberculin is to begin with a dose of 0.0000001 cc. of the variety chosen and to increase this as regularly as possible every three or four days. The second dose is usually 0.00000015 cc. or 0.0000002; the third, 0.0000003; the fourth, 0.0000005; the fifth, 0.0000007, and the sixth, 0.000001. After this the next stronger dilution is used and the same relative increase in strength made at each subsequent injection. When a strength of 0.0001 is reached the increases are somewhat lessened each time, and often the interval between doses is lengthened. If any symptoms of reaction occur, the dose following is about one-half the strength of that which caused the reaction, and the quantity is increased gradually until the reacting dose is passed, the endeavor being to prevent all reactions."

BOTULISM

To the Editor:—I am interested in obtaining information on the number of deaths that have occurred from botulinus poisoning during the years 1920 to 1925, with the number of deaths specified for each respective year in that span of time. Miss Elizabeth Gulford of the Home Economics Bureau, Metropolitan Life Insurance Company, New York, suggests that you probably have this information published in your annual summary. If you have, I should appreciate having it.

INA S. LINDMAN, Muncie, Ind.

ANSWER.—The following table includes data on botulinus poisoning from 1920 to 1926:

Year	Number of Outbreaks	Number of Cases	Number of Deaths
1920	14	48	33
1921	14	56	22
1922	21	55	46
1923	12	21	16
1924	8	43	29
1925	8	21	15
Total	77	244	161

TRADE DERMATITIS

To the Editor:—I now have under treatment a case of dermatitis covering both hands and extending up the arms, with some involvement of both legs at times which seems to be from local irritation—something in the man's occupation. He is a plumber and does work with copper and solder which, he says, causes irritating fumes. His physical examination is negative other than a slight trace of albumin in the urine. The skin condition began about a year ago; it ran a very acute course for one month, and then subsided into a subacute irritation. Do you think this is dermatitis from local irritation? What would be the best general and local treatment? The man is working every day.

K. A. A., Michigan.

ANSWER.—The history of this case would suggest that one must rule out external irritants before anything else. It is highly probable that external irritants in the occupation are producing the dermatitis. There are many things used by a plumber which might be at fault. If the trouble is due to external irritants they are almost certain not to be gotten rid of until the man is taken away, temporarily at least, from them by stopping his occupation. The case could be well tested by taking the man absolutely away from his work and putting on wet dressings of the following formula:

Aluminum subacetate solution, N. F. IV..... 30 cc.
Water .....to make 500 cc.

Under treatment of this sort, he ought to show rapid improvement. After this treatment has been used for several days—probably about a week—and his hands have gotten much better, he can then substitute for the wet dressings a bland ointment. For this purpose nothing is better than ordinary cold cream. The dressings spread with this should be on his hands for a while; then the dressings should be left off and the hands greased and gloves worn most of the time. In this way, if he gets away from the irritants of his occupation he will probably get rapidly better if not clean up entirely. Then he can go back to his occupation cautiously, and carefully test out the various materials to see what is producing the irritation.

CREAM SOUP

To the Editor:—In the book, "Infant Feeding" by Julius H. Hess there is mentioned in the diet of an infant of from 9 to 12 months "cream soup." Will you kindly advise the formula of a cream soup for an infant of this age?

FRANK A. M. BRYANT, M.D., Mount Vernon, N. Y

ANSWER.—Cream soups may be made from vegetable pulp, using one tablespoonful of cooked potatoes, peas or asparagus to one-half cup of water in which the vegetables were cooked, one-half cup of sweet milk, and one-half teaspoonful of flour, with a little butter and salt. It should be cooked another minute or two, and strained if necessary.

Corn or tomatoes may be used in the same manner, using two tablespoonfuls of strained vegetables with about one-third water and two-thirds milk. When tomatoes are used, a small pinch of soda should be added to the tomatoes before adding the other ingredients.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA: Juneau, March 2. Sec., Dr. Harry C. De Vighne, Juneau.

CALIFORNIA: Los Angeles, March 8-11. Sec., Dr. Charles B. Pinkham, Room 906, Forum Bldg., Sacramento.

CONNECTICUT: Basic Science Board, New Haven, Feb. 13. Chairman, Mr. Charles M. Bakewell, Box 1895, Yale Station, New Haven. Regular Board, Hartford, March 9-10. Sec., Dr. Robert L. Rowley, 79 Elm St., Hartford. Homeo. Board, New Haven, March 9. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

KANSAS: Topeka, Feb. 9. Sec., Dr. Albert S. Ross, Sabetha.

MAINE: Portland, March 9-10. Sec., Dr. Adam P. Leighton, Jr., 192 State St., Portland.

MASSACHUSETTS: Boston, March 9-11. Sec., Dr. Frank M. Vaughan, 144 State House, Boston.

MISSOURI: Jefferson City, March 9-11. Chief, Licensure, Dr. Ross Hopkins, Capitol Bldg., Jefferson City, Mo.

NATIONAL BOARD OF MEDICAL EXAMINERS: Part I, Feb. 10-12; Part II, Feb. 11-12, in Class A Medical Schools. All applications must be received on or before Jan. 15. Sec., Dr. J. S. Rodman, 1600 Walnut St., Philadelphia.

NEW HAMPSHIRE: Concord, March 11-12. Sec., Dr. Charles Duncan, Concord.

OKLAHOMA: Oklahoma City, March 9-10. Sec., Dr. J. M. Byrum, Shawnee.

PHILIPPINE ISLANDS: Manila, Feb. 9. Sec., Dr. Jose V. Gloria, 686 Rizal Ave., Manila.

PORTO RICO: San Juan, March 2. Sec., Dr. D. Biascoechea, Box 804, San Juan.

VERMONT: Burlington, Feb. 9-11. Sec., Dr. W. Scott Nay, Underhill.

Idaho October Examination

Mr. F. A. Jeter, ex-officio secretary of the Idaho Medical Examining Board, reports the written examination held at Boise, Oct. 6-7, 1925. The examination covered 13 subjects and included 130 questions. An average of 75 per cent was required to pass. Six candidates were examined, all of whom passed. Four candidates were licensed by reciprocity. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent
College of Medical Evangelists	(1925)	86.3
University of Colorado School of Medicine	(1912)	85
General Medical College, Chicago	(1924)	78.6
Northwestern University Medical School	(1903)	82
State University of Iowa College of Med.	(1923) 88, (1924)	86

LICENSED BY RECIPROCITY		
College	Year Grad.	Reciprocity with
Denver and Gross College of Medicine	(1906)	Washington
Georgetown University School of Medicine	(1914)	Washington
College of Physicians and Surgeons, Chicago	(1894)	Montana
Hahnemann Medical College and Hospital, Chicago	(1916)	Oregon

Minnesota October Examination

Dr. Thomas McDavitt, secretary of the Minnesota Board of Medical Examiners, reports the oral, written and practical examination held at Minneapolis, Oct. 6-8, 1925. The examination covered 15 subjects and included 80 questions. An average of 75 per cent was required to pass. Eighteen candidates were examined, all of whom passed. Twenty-five were licensed through reciprocity, and 7 by endorsement of their credentials. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent
Rush Medical College	(1925)	89
University of Louisville School of Medicine	(1925)	82.1
Harvard University	(1923)	86
University of Minnesota Medical School	(1924) 83.7, 85.3, 89.1, 92, (1925) 85, 86.9, 87.6, (1925)* 88, 88.8, 93	
St. Louis University School of Medicine	(1925)	85.5, 87.2
Washington University School of Med.	(1923) 89.7, (1924)	86.6
University of Nebraska College of Medicine	(1923)	88.1

LICENSED BY RECIPROCITY		
College	Year Grad.	Reciprocity with
University of Colorado School of Medicine	(1925)	Colorado
Hahnemann Medical College and Hospital, Chicago	(1910, 2)	Illinois
Northwestern University Medical School	(1916)	Illinois
Rush Medical College	(1923)	California
State Univ. of Iowa College of Med.	(1906), (1920), (1924)	Iowa
Detroit College of Medicine and Surgery	(1924)	Michigan
University of Michigan Medical School	(1923)	Michigan
University of Minnesota Medical School	(1924)	Penna.
Creighton Medical College	(1924, 2)	Nebraska
University of Pennsylvania School of Med.	(1923), (1924)	Penna.
University of Pittsburgh School of Medicine	(1924, 2)	Penna.
University of Tennessee College of Medicine	(1924)	Tennessee
University of Virginia Department of Medicine	(1922)	Virginia
Marquette University School of Medicine	(1924, 2)	Wisconsin
University of Toronto Faculty of Medicine	(1922)	N. Dakota
University of Western Ontario Medical School	(1901)	N. Dakota
Licentiate of the Royal College of Physicians and Surgeons, London	(1923)	New Jersey
University of Wurzburg, Germany	(1909)	Wisconsin

ENDORSEMENT OF CREDENTIALS		
College	Year Grad.	Endorsement with
Rush Medical College	(1925, 2)	N. B. M. Ex.
Harvard University	(1922)	N. B. M. Ex.
University of Nebraska College of Medicine	(1923)	N. B. M. Ex.
University of Oregon Medical School	(1924)	N. B. M. Ex.
University of Virginia Department of Medicine	(1924, 2)	N. B. M. Ex.

* These candidates have finished their medical course, and received their M.B. degrees, and will receive their M.D. degrees on completion of a year's internship in a hospital.

North Carolina November Reciprocity Meeting

Dr. K. P. B. Bonner, secretary of the Board of Medical Examiners of North Carolina, reports that 17 candidates were licensed by reciprocity, and two by endorsement of their credentials at the meeting held at Raleigh, Nov. 25, 1925. The following colleges were represented:

LICENSED BY RECIPROCITY		
College	Year Grad.	Reciprocity with
Southern Medical College, Atlanta	(1898)	Georgia
University of Georgia, Medical Department	(1907)	Georgia
Northwestern University Medical School	(1911)	Illinois
Tulane University of Louisiana School of Medicine	(1910)	Louisiana
Johns Hopkins University Medical Department	(1916) (1920)	Mass. Maryland
College of Physicians and Surgeons, Baltimore	(1915)	W. Virginia
Bellevue Hospital Medical College	(1892)	Virginia
Cornell University Medical College	(1905)	New York
Leonard Medical School, Raleigh	(1902)	S. Carolina
Jefferson Medical College of Philadelphia	(1895) (1915), (1917)	Penna. South Carolina
Medical College of the State of South Carolina	(1915)	S. Carolina
Memphis Hospital Medical College	(1900)	Arkansas
Medical College of Virginia	(1908)	Virginia
University of Toronto Faculty of Medicine	(1908)	New York

ENDORSEMENT OF CREDENTIALS		
College	Year Grad.	Endorsement with
University of Maryland School of Medicine	(1916)	U. S. Army
University of Pennsylvania School of Med.	(1924)	N. B. M. Ex.

Book Notices

THE HISTOLOGY OF THE MORE IMPORTANT HUMAN ENDOCRINE ORGANS AT VARIOUS AGES. By Eugenia R. A. Cooper, M.D., Demonstrator of Anatomy, Victoria University of Manchester. Cloth. Price, $4. Pp. 119, with 63 illustrations. New York: Oxford University Press, 1925.

This book presents briefly and clearly the results of a study of the human hypophysis, suprarenal gland, thyroid, parathyroid and thymus. The study was concerned with the life histories of each of these glands and follows the changes they undergo, from their earliest appearance in embryos, throughout childhood, youth and full development, to the degenerative phenomena of old age. In order that the comparative feature of the study may be more valuable, only one means of fixation has been used throughout, and the methods of staining have been reduced to three: (1) hemalum and aqueous eosin; (2) alcoholic eosin and aqueous methylene blue; (3) Mallory's saure-fuchsin and phosphomolybdic acid connective tissue stain. The literature has been consulted, and the results reported by 112 other workers have been adduced in support of the author's observations, although she has covered the field with her own material and has not substituted other studies for direct observations of any stage. These studies are purely anatomic, and no attempt is made to carry them over into considerations of function; nor is there any excursion into the alluring field of comparative anatomy and evolution. The book presents, therefore, the simple statement of original observations on exclusively human material throughout the various stages of the life history of these interesting structures. It will be of great interest to physiologists, pathologists and clinicians to whom the question constantly presents itself as to whether conditions found represent different stages of cytomorphosis or pathologic changes outside the normal life history. The illustrations have been made mainly from photographs, which do not show the details of cell structure as clearly as will be desired by the student of cytology, although they are, of course, accurate and interesting within the limits of this method of illustration. One colored plate with four figures

adds considerably to the presentation of observations on four of these glands. The contribution is a valuable one, which might well be supplemented by similar studies after other fixations presenting more minutely the structure of the gland cells.

BATS, MOSQUITOES AND DOLLARS. By Dr. Charles A. R. Campbell. Cloth. Price, $3. Pp. 262, with illustrations. Boston: Stratford Company, 1925.

This is a somewhat wordy but entertaining account of the author's experiments, during the last twenty-five years, in an attempt to destroy mosquitoes and thereby control malaria by means of the so-called mouse bat described as the arch enemy of the mosquito. After many failures and discouragements, Dr. Campbell was finally able to build a "roost" which the bats inhabited and in which they multiplied. No detailed description of this roost is given. In view of the oft repeated accusation that opponents of this method of mosquito control are intensely ignorant of its advantages, it is somewhat embarrassing to render what would be regarded as unprejudiced judgment. However, it may be safe to suggest that the difficulties admittedly involved throw a somewhat dubious aspect over its practicability. Even the possibility of a financial return from the bat guano will hardly serve to stimulate the development of a bat breeding industry. The volume contains a chapter on dragon flies as mosquito enemies, a discussion of the functions of the spleen, and some observations on the transmission of smallpox by bedbugs. The author maintains that the spleen is provided for the sole purpose of destroying the malarial parasite. The bedbug transmission theory for smallpox is hardly convincing.

DIE EXPERIMENTELLE PHARMAKOLOGIE ALS GRUNDLAGE DER ARZNEIBEHANDLUNG. Ein Lehrbuch für Studierende und Aerzte. Von Dr. Hans H. Meyer, Professor in Wien, und Dr. R. Gottlieb, weiland Professor in Heidelberg. Seventh edition. Paper. Price 27 marks. Pp. 792, with 89 illustrations. Berlin: Urban & Schwarzenberg, 1925.

A conspicuous feature of this work is the stress on the philosophical aspect of pharmacology based on experimental and clinical evidence. The subject matter is arranged according to physiologic functions, in contrast with the arrangement according to groups of drugs originally employed by the older pharmacologists Buchheim and Schmiedeberg, and still adhered to in most textbooks on the subject. In this respect this book stands by itself. The physiologic classification necessitates the repeated mention, and sometimes discussion, of drugs; but this feature is not as objectionable as at first appears, because the authors have limited themselves to worthy drugs and the discussions are therefore actually limited. The more than occasional employment of trade mark names and reference to proprietary products is regrettable but not surprising, in view of the total lack of control of therapeutic products and the strong commercial influences in most continental countries, as contrasted with the restraining and beneficial influences of the Council on Pharmacy and Chemistry in this country. Fortunately, this part is counterpoised by telling descriptions and thorough analyses, coupled with interesting practical comparisons and well selected illustrations and diagrams, all this making it one of the most readable, enjoyable and informative textbooks on pharmacology. It is understood that an English translation is forthcoming. While the book may not be suited to present arrangements for the teaching of pharmacology in many American medical schools, yet teachers will not do without it and medical students will find it a useful and inspiring supplement to their other textbooks, especially for discussions of the autonomic nervous system, temperature regulation and fever, and colloid or nonspecific therapy. Practitioners will gain new inspirations, refresh their knowledge and make contacts with drugs in ways that no other book provides. The appearance of the seventh edition fifteen years after the first is sufficient testimony to the popularity of the book. This edition differs in no essential respect from the previous ones. There are no important revisions, and the few revisions that have been made have been worked in as rather inconspicuous notes in small print. The chapter on circulation remains unchanged. The present edition is sixty-eight pages longer than the previous one. This book has always made liberal reference to the work of American authors, probably more than all other foreign textbooks on pharmacology combined. A new feature is a twenty-three page alphabetical list of authors referred to in the text. It is the most comprehensive of all foreign books and compares favorably with that of Sollmann in this country. Unfortunately for pharmacology and medicine, Gottlieb has gone to his reward, and Meyer, because of advanced age, has retired. The seventh edition, therefore, may be the last. This loss of the inspiration and leadership of the authors of "Die experimentelle Pharmakologie" is a matter of personal regret to their many American friends and students.

BACTERIAL INFECTIONS, WITH SPECIAL REFERENCE TO DENTAL PRACTICE. By J. L. T. Appleton, Jr., B.S., D.D.S., Professor of Microbiology and Bacteriopathology, the Thomas W. Evans Museum and Dental Institute School of Dentistry, University of Pennsylvania. Cloth. Price, $6. Pp. 474, with 96 illustrations. Philadelphia: Lea & Febiger, 1925.

The text is divided into three parts: (1) bacteriology; (2) infection, and (3) infection of the oral cavity. The first has five chapters on the morphology and physiology of bacteria, the relation of bacterial growth to oxygen supply, chemical disinfectants, filtrable viruses, and the classification of bacteria. In the second part, twelve chapters are devoted to such subjects as the nature and types of infection, how bacteria produce disease, resistance to bacterial infection, and immunity. The eleven chapters of the third part concern such matters as the bacteriology of dental caries, of periapical infections and of pyorrhea; focal infection; tuberculosis; syphilis, and the spirochetes of the mouth. The preface suggests that this book is designed to be "suitable for the beginner" as well as for the advanced student. The few introductory chapters do not prepare the beginner for the difficult discussion of infection and immunity that follows. The difficulties of the beginner are increased by the author's fondness for words of many syllables, for long sentences, and for involved grammatical construction. On the other hand, the advanced student interested in the dental phases of infection will find the book invaluable because of its many references to the original sources and its descriptions of technical methods especially adapted for the study of mouth bacteria. In many instances the matter could have been better arranged. The discussion of the methods for the routine sterilization of the dentist's instruments does not belong in the chapter on the physiology of bacteria. The subjects of the pathology of pyorrhea and the details of its treatment by vaccines are not well placed in the second part of the book under the title of artificial active immunization. The physical appearance of the book is all that it should be. Seventy-eight of the illustrations are reprinted from other books, and five are colored plates. There is a complete subject index.

SLIT-LAMP MICROSCOPY OF THE LIVING EYE. Early Diagnosis and Symptomatology of Affections of the Anterior Segment of the Eye. By Dr. F. Ed. Koby. Translated by Charles Goulden, O.B.E., F.R.C.S., Surgeon to the Royal London Ophthalmic (Moorfields) Hospital, and Clara Lomas Harris, M.B., Chief Clinical Assistant, Royal London Ophthalmic (Moorfields) Hospital. Cloth. Price, $3.50. Pp. 221, with 43 illustrations. Philadelphia: P. Blakiston's Son & Co., 1925.

This is the forerunner of what promises to grow into a vast library. Although slit lamp microscopy of the living eye has been known and practiced abroad for thirteen years and in this country for seven years, there has not been a single book in the English language on this newer phase of ophthalmology. The proper description of this method of examination is "binocular microscopy of the living eye with focal illumination in varying azimuths." To shorten this, Edward Jackson suggested the term biomicroscopy, which bears promise of earning a place in our vocabulary. The nine chapters are divided among the apparatus, methods of examination, phenomena of reflection of light by the ocular media, and description of the various ocular tissues examined. The first chapter is fairly comprehensive, but should have been written somewhat more simply, with more illustrations. In the second chapter, under the methods of illumination, no mention is made of the important method known as sunset illumination. Otherwise, the chapter is fairly good, although a novice would find some difficulty in learning to use the instrument if entirely dependent on the directions given.

From here on, the technic of examining the different ocular tissues is described and the normal appearance of each tissue discussed briefly. Some of the pathologic conditions encountered are considered in more or less detail. The bibliography is not complete, but is sufficient for the beginner in the art. The illustrations are for the most part diagrammatic and hence really instructive. In lieu of an extensive library on biomicroscopy, one might well read this.

DIE KREBSKRANKHEIT. Ein Zyklus von Vorträgen. Herausgegeben von der österreichischen Gesellschaft zür Erforschung und Bekämpfung der Krebskrankheiten. Paper. Price, 18 goldmarks. Pp. 356, with 95 illustrations. Vienna: Julius Springer, 1925.

In 1924 the Austrian Society for Investigation and Combating Cancer instituted a week of lectures in the Vienna medical faculty, for the purpose of providing virtually a postgraduate course on cancer and a summary of our knowledge to date. The thirty lectures of this course, by nearly as many lecturers, are published in this volume, and they furnish a recapitulation of the subject, presenting the matured opinion of experienced clinical and laboratory observers, each discussing his own special field. The first six lectures take up the general features of cancer—morphology, etiology, malignancy, biochemistry, heredity, statistics, and experimental cancer. The remaining twenty-four lectures discuss cancer of the various tissues and organs of the body. Sarcoma and other noncarcinomatous forms of malignancy are not discussed, but a lecture is given on chorio-epithelioma. Naturally among so many lectures there is great unevenness, and no single lecture on any aspect of cancer can be complete or final; but certainly the discussion of etiology by Maresch is inadequate, and the discussion of biochemistry of cancer by Freund is, as might be expected, devoted soley to a presentation of the ideas of Freund and Kaminer on this subject. On the other hand, the section on experimental cancer study, by Kraus, is a much more adequate presentation. In connection with the recent revival in interest in filtrable viruses, it may be mentioned that Kraus seems inclined to favor the view that the "filtrable virus" of chicken sarcoma is really nothing but fragments of cancer cells which possess the capacity to develop into complete cancer cells. Especially satisfactory is the discussion of the relation of constitution to cancer by the geneteeist Julius Bauer, who recognizes inherited influences as to both cancer occurrence and the site or type of the cancer. Peller has a judicial analysis of cancer statistics, recognizing the limits of their value, and throwing doubt on the supposed serious increase in cancer frequency. The sections in the special part, written by specialists discussing familiar fields, are generally as adequate as the limits of a lecture permit. The lack of bibliography is a distinct defect, which may or may not be compensated by the space and cost saved.

DENTAL INFECTIONS. In two volumes. By Weston A. Price, D.D.S., M.S., F.A.C.D., Specialist in Dental Research and the Diagnosis, Prognosis, and Treatment of Dental Infections. Volume I. Dental Infections, Oral and Systemic. Cloth. Price, $10. Pp. 703, with 262 illustrations. Volume II. Dental Infections and the Degenerative Diseases. Cloth. Price, $10. Pp. 471, with 209 illustrations. Cleveland: The Penton Publishing Company, 1923.

Volume I contains the discussion of the results of the author's "researches on oral and systemic expressions of dental infections." Here he formulates forty-five questions such as: "To what extent are the roentgen rays capable of disclosing dental infections? What is the relationship of the quantity of dental infection to the type and extent of systemic involvement? What, if any, is the relationship between dental infections and carbohydrate metabolism? What is the rôle of calcium in the maintenance of the acid-alkali balance of the blood, through body fluids and tissues?" The development of answers to these questions by the massing of experimental data and the deductions made from them, all of which are summarized on the last pages, constitute the first volume. In volume II, an effort is made to apply the conclusions derived from the preceding volume to a study of the inflammatory diseases of the various organ systems, as, for example, the circulatory system. It is obvious that these investigations cover a very wide field, including a number of sciences in which the technic of research is highly specialized, such as the physics of the emanations from the roentgen ray and radium; the chemistry of metabolism, and immunology. The author's conclusions and observations fall into two general groups: those that are generally accepted or do not differ in any essential respect from the facts and deductions presented by other investigators, that is, those that need no emphatic affirmation, and those observations and conclusions that do not at all harmonize with those of other workers. Unfortunately, for the most part, in the last group the experimental methods used by the author to develop his data are not stated with sufficient detail and accuracy to enable another worker to repeat the author's experiments in order to verify his results. Furthermore, his conclusions are developed with such deductive nimbleness and are of such far-reaching significance on the basis of comparatively slight experimental evidence that little confidence may be placed in them. Both the evidence and the conclusions require confirmation by independent, competent investigators. The volumes are profusely and elaborately illustrated by original photographs of both gross and microscopic material; there are numerous diagrams and many elaborate tables. Both volumes are carefully indexed, and at the end of volume II there is a short bibliography.

WATER WORKS PRACTICE. A Manual issued by the American Water Works Association. Cloth. Price, $5. Pp. 790. Baltimore: Williams & Wilkins Company, 1925.

There has long been need of an authoritative and comprehensive book on water supply which should take cognizance of the great advances of the last two decades. This need has now been met in admirable form by a book which exemplifies the best features of cooperative activity. It deals in considerable detail with such topics as the collection of water, the quality of the supply, the treatment and distribution of water, and the financing and planning of water works. A valuable appendix gives exact data on various standard specifications and procedures, such as specifications for chemicals used in water purification and specifications for sanitary drinking fountains. The tone of the book is conservative, and the mass of detail has been put together with remarkable accuracy. This is the most useful book on water supply now in existence. The Council on Standardization of the American Water Works Association, under whose auspices the manual has been prepared, is to be congratulated on the completion of a task which was undoubtedly laborious and must often have been tedious, but the results of which will be of inestimable value to all practical workers interested in water supply.

AN ELEMENTARY MANUAL OF PHYSIOLOGY. For Colleges, Schools of Nursing, of Physical Education, and of the Practical Arts. By Russell Burton-Opitz, S.M., M.D., Ph.D., Associate Professor of Medicine, New York Post-Graduate Medical School. Second edition. Cloth. Price, $2.50 net. Pp. 413, with 147 illustrations. Philadelphia: W. B. Saunders Company, 1925.

This is admirably adapted for the purpose for which it is intended, a textbook for colleges, schools of nursing and schools of physical education. The material is arranged logically, progressing from the comparatively simple phenomena of contraction to blood and circulation, the chemical changes of respiration and metabolism, and the regulation of the body function through the endocrine glands and the central nervous system. The book is profusely illustrated, and only a few of the illustrations might have been left out without decreasing the value of the manual.

ELEMENTS OF SURFACE ANATOMY FOR STUDENTS OF MEDICINE. By I. Maclaren Thompson, B.Sc., M.B., Assistant Professor of Anatomy, McGill University, Montreal. Cloth. Price, 5 shillings, 6 pence net. Pp. 172. Edinburgh: E. & S. Livingstone, 1925.

This little book is intended to be a guide for small groups of students who study on one another surface landmarks and markings. It does not include surface markings for all underlying structures, but only such as are useful in surgical and clinical work. It is accurate and is arranged in accordance with a logical and convenient plan. It affords admirable guidance in the study of this subject, which deserves more attention than is usually given it in the medical curriculum.

Medicolegal

Provision Requiring Physician's Reports Upheld

(American Nat. Ins. Co. v. Burns (Texas), 273 S. W. R. 339)

The Court of Civil Appeals of Texas says that plaintiff Burns on account of alleged total disability from injuries sustained on or about Feb. 1, 1923, brought this action to recover the full amount of an accident insurance policy which provided for the payment of $100 a month for not exceeding thirty-six months in case of total disability. However, the policy contained a provision that

> If the insured is disabled by injury or illness for more than thirty days, he or his representative shall, as a condition to recovery hereunder, furnish the company, every thirty days, with a report in writing from his attending physician or surgeon, fully stating the condition of the insured and the probable duration of his disability.

The evidence showed that, in compliance with the terms of his policy, the plaintiff, Feb. 15, 1923, informed the defendant company of his injury. This notice of claim was accompanied by a preliminary report from the plaintiff's physician, stating that he had examined the plaintiff and found him suffering from an injury to his left knee and the flexor muscles of his left leg, which were badly sprained; that this injury totally disabled the plaintiff from performing the duties of his occupation; and that, in the physician's opinion, the injury would last about sixty days. In response to this notice of claim for compensation, the defendant wrote the plaintiff, February 23, enclosing a blank form for final proof of loss. No further report was made by the plaintiff as to his condition until Sept. 22, 1923, when he sent the defendant the filled-in proof of loss. The court holds that, under the plain and unambiguous terms of his contract, the plaintiff was not entitled to receive any compensation for disability extending more than thirty days after the notice of claim and report of his condition sent the defendant, February 15.

There is, the court thinks, nothing unreasonable in this provision of the policy requiring an insured, who claims compensation for disability caused by an injury or sickness which lasts longer than thirty days, to keep the company informed of his condition by furnishing it with his physician's report every thirty days. Such requirement is manifestly made for the protection of the company against fraud and imposition, and when we consider how numerous and widely distributed the beneficiaries in such policies may be, efficient protection of the company could not be otherwise secured except at such additional costs to the insurance companies as would necessarily increase the costs of such insurance. Such a provision in a policy of this kind cannot be held to be against public policy. Nor is such a provision rendered void by the Texas statute which provides that any stipulation in any contract requiring notice to be given of any claim for damages as a condition precedent to the right to sue thereon at a period of less than ninety days shall be void, because that statute does not apply to a provision like that in this policy, which cannot be regarded as a "stipulation requiring notice to be given of a claim for damages."

Declarations of Insanity—Observations of Physicians

(Burris v. State (Ark.), 273 S. W. R. 19)

The Supreme Court of Arkansas, in affirming a judgment of conviction of murder in the second degree, says that there were assignments of error with respect to the trial court's refusal to permit two witnesses to testify concerning statements made to them orally and in writing by defendant Burris. These statements were to the effect that the defendant was insane. One of the witnesses would have testified that he had received a letter from the defendant in which the defendant stated that physicians had advised him that he was bordering on insanity. The other witness, who was the defendant's mother, testified that at one time the defendant, while working on some machinery, had said to her, "Don't bother me, you can't realize the condition I am in; I don't know a thing." These were statements of self-serving declarations of the defendant himself, and were not competent. Of course, the nonexpert witnesses should have been permitted to tell of their observations of the defendant, and of any unusual conduct of his which tended to show that his mind was unbalanced; but a mere statement, whether made orally or in writing, that he believed himself to be insane, was not such a statement as could properly form the basis of an opinion as to his mental condition. These witnesses were allowed to testify as to other facts which influenced them in concluding that the defendant was mentally unbalanced. His mother testified as to his condition from infancy, giving an account of diseases which had begun in early childhood, and relating many instances on which she based her conclusion that he was not of sound mind. The supreme court thinks that there was no error committed in excluding the testimony concerning the defendant's statement of his own mental condition.

Two physicians testified that they had been acquainted with the defendant for a number of years, had practiced in his family, and had treated him for disease on different occasions. Over the objection of the defendant, they were permitted to testify as to his mental condition. It was contended that this was error. But the Arkansas statute excludes only the testimony of a physician as to information "necessary to enable him to prescribe as a physician." The statute does not exclude all the testimony of a physician because he has attended the person in a professional capacity; the exclusion is limited to information which was necessary to enable the physician to prescribe. Neither of these witnesses had ever examined the defendant as to his mental condition, or treated him for mental disease, and they both testified that they were basing their opinions on mere observations of the defendant during their acquaintance with him as family physician, and by observing him while he was on the witness stand, but not from any information received for the purpose of treating him, although one of the physicians said that on one occasion he gave the defendant medicine for nervous trouble, but did not examine him with a view of ascertaining his mental condition, or treat him for any mental disease. Counsel relied mainly on the announcement of the law on the subject made by this court in *Triangle Lumber Co.* v. *Acree*, 112 Ark. 534, 166 S. W. 958, but this court finds nothing on examination of the opinion in that case which would justify this court in holding that this testimony was incompetent.

Account Stated Not Created by Bills Sent to Mother

(Swim v. Juhl et al. (Calif.), 237 Pac. R. 552)

The District Court of Appeal of California, First District, division 2, in affirming an order granting a nonsuit, says that the plaintiff sued on an assigned claim for medical services alleged to have been rendered to a Mrs. Bradley, with whom as a defendant were joined as other defendants Mrs. Juhl and husband (Mr. Juhl), on the theory that Mrs. Juhl, who was the mother of Mrs. Bradley, had promised to pay for the services rendered her daughter. The Juhls answered, and went to trial before the court sitting without a jury. At the close of the plaintiff's case, the court, on motion of these two defendants, granted a nonsuit. The complaint was framed on two causes of action—one for the reasonable value of the medical services rendered; the other, an account stated (one agreed on by being rendered and accepted). On this appeal the plaintiff conceded the correctness of the ruling as to the first cause of action, because, the employment of the physician having been made by the daughter, and the alleged agreement of the mother to pay in case of the daughter's default not having been in writing, and having been made subsequent to the employment, the mother's contract was void because of the provisions of the statute of frauds.

As to the second cause of action, the evidence was that, after the services had been rendered, and after the daughter had been released from the hospital, the plaintiff's assignor (the physician) sent a bill for his services to her, and, receiving no reply from her, sent two or three bills for the same account to Mrs. Juhl. No reply was received from the latter, and on this fact the plaintiff based his claim of an account stated. His theory was that, conceding the original contract of the mother to answer for her daughter's default to be void

because not in writing, her failure to object to the bills when rendered created a new contract, which was not controlled by the statute of frauds. The answer was that an account can be stated only when based on an existing legal obligation, and, the promise of the mother being void because of the statute of frauds, no valid contract could be created by the purported statement of account. The defendants also argued that the question of the reasonableness of the time within which the mother failed to object to the bill was a question of law for the court, and that on this appeal the court of appeal must assume that the trial court held that a reasonable time had not elapsed.

The absence of a writing to answer for the daughter's default rendered the mother's original agreement void, so that there was no legal obligation on which the account could be stated. Though the contract with the daughter for the performance of the services was executed (performed), the contract of the mother to answer for the daughter's default was unexecuted. As an account stated cannot create a liability where none has theretofore existed, and as the oral promise of the mother to answer for the default of her daughter was void because not in writing, it followed that the attempt to state an account without any writing on the part of the party sought to be charged did not create any liability enforceable against her.

Hearing denied by the Supreme Court of California.

Essentials When Dislocation or Fracture Is Issue

(McDonald v. Crider (Mo.), 272 S. W. R. 980)

The Kansas City (Mo.) Court of Appeals, in reversing a judgment for $2,500 damages rendered in favor of the plaintiff, says that the facts, taken in their most favorable light to the plaintiff, showed that she had sustained a dislocation of the ulna of her right arm, but that the defendant had diagnosed the case as one of a tranverse Colles fracture of the radius. There was a great deal of evidence in the record tending to show that a Colles fracture had actually been sustained, although there was also evidence to go to the jury that such a fracture had not been sustained, but a dislocation of the ulna. The evidence showed that, at the time of the trial, the lower end of the ulna was broken loose from its attachment at the wrist joint and dropped out of place; that the ulna and radius had pulled apart; that the radius alone was in position and the only bone that then articulated with the hand. The defendant admitted at the trial that he did not discover the dislocation of the ulna, if any, and the fact that it had broken loose from the radius.

The plaintiff's petition was founded on alleged negligence and unskilful conduct of the defendant. It is well settled that cases of this kind are based on negligence. A physician is not liable solely because of want of success. The defendant was required to use only that degree of knowledge and skill that physicians practicing in similar localities ordinarily possess. Of course, he was liable if he failed to use that degree of care and skill of the ordinary physician of similar localities in diagnosing or discovering the true condition of the plaintiff's arm. But there should be some testimony tending to show that a physician of ordinary skill in the locality in question, and by the means at hand, could have discovered the dislocation or differentiated between it and a Colles fracture; or whether or not a physician of such skill should have waited until the swelling subsided (if it would) before determining on the character of the injury, or whether, if he was in the exercise of ordinary care in diagnosing the trouble as a Colles fracture under the circumstances, he should have made a further examination after the swelling had subsided.

An instruction was erroneous which covered the entire case, told the jury that there was only question in the case for its determination, and directed it to find the issues for the plaintiff if the defendant failed properly to reduce and treat the dislocation or fracture, or failed to give proper and necessary directions for the care of it, or failed to exercise such care and skill as was used by the average members of his profession under like circumstances—without having the jury find the defendant's failure to exercise care and skill under the circumstances was the proximate cause of the plaintiff's condition. An instruction which told the jury that, if it found the issues in favor of the plaintiff, it should assess her damages in such sum as it believed properly to compensate her for her pain, suffering and mental anguish, if any, as well as the loss of the use of her hand from her ordinary work and duties of life, if any, was erroneous in that it should have made it plain that the defendant was not responsible for any bodily or mental suffering endured by the plaintiff, which was due to her injury and would have resulted to her in any event, though treated with ordinary care and skill.

Testimony Admissible When Roentgenograms Are Lost

(Spellmeyer v. Theo. Hierts Metal Co. (Mo.), 272 S. W. R. 1068)

The St. Louis (Mo.) Court of Appeals says that in this action to recover damages for personal injuries objection was made to the testimony of a physician concerning roentgenograms which he had made of the plaintiff, but which were not in evidence. It was contended that, since the roentgenograms constituted the best evidence, it was error to permit the witness to state what injuries he had found by reason of his examination of the roentgenograms. There is room for the position that the interpretation of roentgenograms by an expert is the best evidence, and not the roentgenograms themselves, since roentgenograms must be interpreted and explained by an expert. But, assuming that the roentgenograms in question were the best evidence, it was established that they had been lost and that a diligent search had been made for them without finding them; and, under such circumstances, this court thinks that the trial court properly permitted the physician to testify and state as to his knowledge of the plaintiff's injuries regarding which he had been aided through an examination of the roentgenograms. After all, it is largely within the discretion of the trial court as to when secondary evidence should be admitted.

Employer's Contract to Furnish Medical Attention

(Sloss-Sheffield Steel & Iron Co. v. Maxwell (Ala.), 104 So. R. 841)

The Court of Appeals of Alabama, in affirming a judgment in favor of plaintiff Maxwell for damages for breach of contract, says that the plaintiff alleged that a contract had been entered into between him and the defendant company by which, in consideration of the collection by the defendant of $1 a month from the plaintiff's wages, the defendant agreed to furnish him with medical attention if he became sick while in its employment. It appeared that about Sept. 1, 1920, he had a severe attack of rheumatism, called the defendant's physician, and was treated by him until the latter part of April or the 1st of May, 1921; that, on the occasion of the last treatment, the physician told him to return to his office in two or three weeks; that he got so that he could not walk, and sent for the physician about May 23; and that as the result of the physician's failing or refusing to administer to him further treatment during the month of May, he suffered the injuries for which he sued. The defendant contended that it was under no duty to furnish, through its physician, any treatment to the plaintiff during the month of May, because the $1 a month which the plaintiff was due to pay under his contract had not been actually paid for that month.

It seems to be generally recognized that, when an employer makes a valid contract with an employee to furnish medical attention in case of sickness or injury, and fails to do so, there is a liability on the part of the employer to the employee resulting from such failure. It was without dispute that the $1 for the month of April had been paid to or reserved by the defendant. In *Scanlon* v. *Galveston, H. & S. A. Ry. Co.*, 86 S. W. 930, where it was shown that the monthly deduction of wages was made with the understanding that the employee, when sick or injured, should be entitled to hospital benefits at the defendant's expense, the Court of Civil Appeals of Texas said that "this would imply and mean, in the absence of an understanding to the contrary, the continuance of the benefits while the sickness or injury required same." The Court of Appeals of Alabama thinks the Texas court stated the situation correctly. But, even if the foregoing were not

so, from the way that the payments were collected they could not have been due and payable in advance, and the plaintiff had until May 31 within which to make payment of the $1 due from him for the month of May, there being no suggestion that he had been discharged from the defendant's employment.

It was contended that, as to the $1 a month deducted from the plaintiff's wages, the defendant was a "noncompensated gratuitous trustee"; but this court does not agree with that contention, notwithstanding that there was testimoney that from the fund created by the $1 a month deductions from the wages of those situated as was the plaintiff the physician employed by the defendant was paid, and that, if there was any left over, it went into the welfare fund which was used by the defendant for the benefit of the employees and welfare. All this meant nothing, the court thinks, so far as the plaintiff was concerned. He paid his $1 a month to the defendant in consideration of its agreement to furnish him medical attention as and when he required it. What the company did with the dollar was no concern of his.

The Supreme Court of Alabama, in *Ex parte Sloss-Sheffield Steel & Iron Co.*, 104 So. 843, denied the company a writ of certiorari to the court of appeals, to review and revise the judgment and decision of the latter court rendered as above.

Society Proceedings

COMING MEETINGS

American College of Physicians, Detroit, Feb. 22-29. Dr. Frank Smithies, 920 N. Michigan Ave., Chicago, Secretary.

American Congress on Internal Medicine, Detroit-Ann Arbor, Feb. 22-29. Dr. Frank Smithies, 920 N. Michigan Ave., Chicago, Secretary.

New York, Medical Society of the State of, New York City, March 29-April 1. D. S. Dougherty, 17 W. 43d St., New York City, Secretary.

CHICAGO MEDICAL SOCIETY

Meeting held Jan. 20, 1926

DR. M. L. HARRIS, Chicago, in the Chair

The Technic and Interpretation in Cholecystography by the Oral Method

DR. WILLIAM H. STEWART, New York: Up to the time of the discovery of the "Graham test," roentgenography of the gallbladder has been distinctly unsatisfactory. In not over 50 per cent of the cases is it possible to make any sort of reliable findings, and these, as a rule, are all late effects of gallbladder disease. The intravenous injections of tetrabromphenolphthalein and tetra-iodophenolphthalein, as recommended by the originators of the method, are disastrous to the patient. It has become evident that the method must be simplified so that it will be safe and can be used as an office procedure, not requiring hospitalization. Whitaker and Milliken have shown that the same results can be obtained with one-half the amount of tetra-iodophenolphthalein as with tetrabromphenolphthalein. With this knowledge I began the use of the iodine salt made up in 5 grain keratin coated pills. In September, 1925, I had the dye supplied in sealed colored ampules, a single dose in each. When ready for use, the fresh drug from the ampules is placed in plain gelatin capsules which are dipped into a solution of keratin. This seals them air tight and covers them with a coating which prevents their being broken up in the stomach. I have had no reaction, unless one classifies as such a slight nausea, one or two loose movements or an occasional vomiting attack. Patients appear at the office the morning following the administration of the dye and are strong enough to undergo the examination, without food for about eighteen hours, and with no inconvenience.

In making a roentgenographic examination of the gallbladder by the oral method, the following technic must be accurately followed: The gastro-intestinal tract should be thoroughly cleansed. This is best accomplished by a mild cathartic administered the night before the examination, followed by a simple enema in the morning. The preliminary examination of the gallbladder, before the administration of the dye, is best made in the afternoon. At 6:30 p. m., the following meal is advised: a thick soup, creamed chicken, baked potato if desired, bread and butter, and a glass of milk. Commencing at 10 p. m. two 5-grain capsules of tetra-iodophenolphthalein prepared as recommended are given every fifteen minutes with a small glass of water until 45 grains (3 Gm.) has been taken, which is the average dose for a patient weighing 150 pounds (68 Kg.). The patient reports at the office the following morning at 10 o'clock, twelve hours after the administration of the dye, "no breakfast" being the rule. Four hours later, at 2 p. m., the examination is repeated. Regular lunch is then allowed, followed by a reexamination one hour later. The patient reports the next morning for a final observation. At least three roentgenograms should be made at each observation. It is well to develop one of these to make sure that the position and exposure are correct. The most important of the direct signs is the actual visualization of nonopaque stones. The second direct sign is deformity of outline. When adhesions are caused by chronic inflammation of the gallbladder wall, the shadow is deformed and the edges are likely to be roughened and irregular; when caused by omental adhesions, the edges are clear cut and the entire outline of the gallbladder quite distinct.

One of the most important values of the Graham test is in the detection of disturbance of function of the gallbladder. Up to the present time this disturbance has been recognized by four different variations to the normal sequence of the gallbladder shadow as it appears after the administration of the dye; namely, absence of shadow, persistence of shadow, faintness of shadow, and the late appearance of the shadow. It is interesting that in many cases in which gallstones are visualized by the test, the gallbladder still shows fairly good function. The presence of gallstones is such a menace to the health of the patient that they should always be removed. The paper was based on observations made in 312 clinical cases examined by the oral method.

DISCUSSION

DR. E. S. BLAINE, Chicago: My experience with the capsules was at first far from satisfactory. Therefore, I undertook to follow Dr. Graham's technic of intravenous administration. I now find the method about 100 per cent satisfactory from a diagnostic standpoint. Graham himself has said that there is a certain amount of danger in the oral administration. The method is reliable; it is not attended with the dangers that some have reported; when properly interpreted it gives a large percentage of correct conclusions, and several intravenous injections a day are being given in many offices.

DR. ROBERT A. ARENS, Chicago: I am an ardent advocate of Ariel George, who originated the so-called direct visualization of the gallbladder. The direct method takes its premises on the fact that the normal gallbladder does not show on the film. In order to avoid mistaking gas in the duodenum for a negative shadow, I take a plate in the gallbladder position after the patient has had an opaque meal. This gives the relation of the duodenum and various structures in the upper half of the abdomen. It is surprising to find not only the jejunum but also the ileum in the upper right quadrant producing so-called negative shadows. I should like to ask Dr. Stewart what his experience has been in visualizing the gallbladder in normal persons by his method. Has he made a comparative study of the gallbladder as visualized on the film without a cholecystogram and those that have been shown with the cholecystogram? How do they compare on the basis of showing pathologic changes?

DR. WILLIAM H. STEWART, New York: It is not my purpose to state that the oral method is better than the intravenous. Of course, Dr. Blaine, located in a hospital with ample assistance, secured excellent results by the intravenous method; but the office man desires a simple method which does not require so much help. I do not agree with Dr. Arens at all. The gallbladders that are visualized are not all pathologic. I could show a number of cases in which the shadow outlined in the old days as a possible gallbladder was not the gallbladder.

Surgery of Gallbladder Disease

DR. W. J. MAYO, Rochester, Minn.: The investigation of function by means of dyes has extended from the time when Abel and Rowntree studied renal function up to the investigation by Graham and Cole of the excretion of dyes which were opaque to the roentgen ray. There are types of cholecystitis in which the method is not applicable because the ingress and egress of bile is unhampered. There are other cases in which the patient is so ill that cholecystographic examination cannot be made. The roentgen ray is not infallible. In these cases clinical manifestations must be given due weight. Sometimes the cholecystographic findings and the appearance of the gallbladder at operation do not support the clinical diagnosis. In these cases "cholesterosis" or papilloma showing no evidence of disease in the unopened gallbladder may justify cholecystectomy. Concerning the relative merits of different methods of operating on the gallbladder, in the Mayo Clinic cholecystectomy is performed in more than 90 per cent of cases as against cholecystostomy in less than 10 per cent. After cholecystostomy the gallbladder becomes fixed in adhesions, and the absence of symptoms is no indication that it is functioning.

In cases of acute cholecystitis, when the gallbladder is very large, distended and edematous, with localized peritonitis from complete blockage at the cystic duct, we have had the best results from direct dissection of the cystic duct at the common duct, early closure of the cystic duct with a pair of forceps, and removal of the entire gallbladder, which is easily enucleated with its contained stones and septic material. In acute cases of this kind it sometimes happens that the gallbladder is reduced in size by even gentle manipulation before one can block the cystic duct effectually at the common duct, which leads to the suspicion that some septic material has been allowed to pass into the common duct. In this event, I leave the forceps on the stump of the duct after the removal of the gallbladder, or tie the stump at the common duct with a granny knot of catgut, leaving the ends of the ligature long, hanging outside the body, so that if there should be symptoms of retention in the common duct and failure of good drainage of bile through the normal channel, the threads can be pulled off or the forceps can be unclamped, allowing the stump of the cystic duct to open and permit free discharge of bile to the surface.

Perforation of the gallbladder into the transverse colon or duodenum is not infrequent, and most of the larger gallstones probably escape in this way rather than through the common duct. I wish to emphasize the importance of the latent period following the period of acute attacks. Permanent cure has followed only when the disease was so early that microscopic examination was necessary to determine its presence. When there are stones in the common duct and jaundice has been present, excision of the gallbladder should be avoided if possible. Statistics have shown that half the deaths following such operations have been due to hemorrhage. When, as a result of obstruction in the head of the pancreas, the gallbladder is distended with bile, the most suitable operation is cholecystogastrostomy or cholecystoduodenostomy. Accidents in performing cholecystectomy are often due to insufficient care in locating and isolating the cystic duct and the cystic artery. I have found McArthur's method of incision helpful in the prevention of postoperative hernia. The question of drainage has long been vexing, but a little drain is a comfort to the surgeon and sometimes a life buoy for the patient. In fleshy patients, it is wise to bring the drains out through a stab wound well to the right so that the main incision can be completely closed. Hernia through the original incision can thus be readily avoided.

DISCUSSION

DR. ALLEN B. KANAVEL, Chicago: There are two groups of these cases: (1) the group in which there is no gross pathologic condition that is recognized as gallbladder disease per se, and (2) the group in which on opening the gallbladder there is very little evidence of pathologic change although there has been definite clinical evidence of perversion of function. The surgeons, the internists and the roentgenologists must clarify the picture of early gallbladder disease.

DR. A. E. HALSTEAD, Chicago: The question of whether to do a cholecystectomy or cholecystostomy is not settled. Moynihan says that cholecystectomy has a mortality equal to that of cholecystostomy. Cholecystectomy has a higher mortality in Chicago than cholecystostomy. In acute gangrenous cholecystitis, acute suppurative cholecystitis, and cases of stones in the gallbladder associated with stones in the common duct and jaundice, drainage offers the best chance. When the gallbladder is no longer functioning, cholecystectomy is the operation of choice.

Medical Aspects of Gallbladder Disease

DR. JOSEPH L. MILLER, Chicago: The treatment of gallbladder disease is surgical. The diagnosis, however, is usually made by the internist. The internist is also called on occasionally to diagnose and treat some of the postoperative complications. Severe epigastric pain without fever but associated with a leukocytosis is suggestive of gallbladder disease, as gastric pains or spasm of the colon do not give leukocytosis. When the pain passes either through to the right scapula or around the right lower thorax, gallbladder involvement is suggested. Biliary colic may appear any hour, day or night. A duodenal ulcer is very frequently troublesome in the early morning hours. Pain after jolting, as long automobile or bus trips, suggests a biliary or renal origin and speaks against spastic colitis or peptic ulcer. The frequency of the attacks and their relation to meals is important. Palpation to determine localized tenderness made especially immediately after the acute pain subsides may supply valuable evidence. The degree of resistance and tenderness on the two sides should be compared. Definite localized tenderness beneath the right costal arch in the parasternal line is suggestive, not conclusive, evidence of gallbladder involvement. During the last two years I have observed a few cases in which the pain was referred to the midsternal region radiating laterally over the chest. It is not like an anginal pain and does not radiate down the arm. There may be complete absence of localized hepatic tenderness. The diagnostic difficulties are much less in that type of gallbladder disease characterized by severe paroxysms of pain than it is in the milder types without severe pain. Here gastric symptoms often predominate, with at most moderate recurrent increased discomfort, difficult to distinguish from the digestive pains. The gastric disturbance may be an indefinite heaviness with belching after meals, or distress may occur from half an hour to one hour after meals, thus resembling peptic ulcer. The pain rarely appears on an empty stomach, as is frequently noted in duodenal ulcer. The medical treatment of gallbladder disease is of interest chiefly from an historical standpoint. The nature of the pathologic changes in the diseased gallbladder holds forth little hope that increasing the flow of bile would be of much value.

DISCUSSION

DR. CHARLES LOUIS MIX, Chicago: In the early manifestations of gallbladder disease, if one pays attention to the little things one will arrive at results well worth having. Individuals with beginning gallbladder disease are usually very fat, complaining of a good deal of disturbance with the stomach, and as a rule about the age of 40. They also complain of pain in the right side radiating in the phrenic nerve distribution. Another important symptom, which is not always present, is vomiting. In ulcer of the stomach, as soon as the contents of the stomach are out the vomiting ceases. In gallbladder disease, after vomiting food the patient continues to vomit bile. A patient with an infected gallbladder is going to have some signs of that infection. The absence of constipation in gallbladder disease and its presence in ulcer are symptoms of importance. The early case of biliary tract infection is a case for the internist, not for the surgeon.

DR. FRANK SMITHIES, Chicago: As MacCarty of the Mayo Clinic has shown, there are very few instances of pure gallbladder disease. Practically all gallbladder disease begins first as liver disease. It would be a good thing to follow Dr. Mix's nomenclature and speak of the condition as biliary tract disease. As to treatment, in the right type of case nonsurgical drainage has a place therapeutically as well as diagnostically.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL for a period of three days. No foreign journals are available prior to 1920, nor domestic prior to 1923. Periodicals published by the American Medical Association are not available for lending, but may be supplied on order. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested).

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

30: 753-904 (Dec.) 1925

Conditioned Reflexes and Children's Neuroses. N. I. Krasnogoraki, Leningrad, Russia.—p. 753.
*Dried Human Milk. IV. Food for Infants. P. W. Emerson, Boston.—p. 769.
*Comparative Sugar Content of Blood and Cerebrospinal Fluid in Various Conditions. A. Levinson, Chicago.—p. 774.
*Experimental Studies on Rickets. III. Protein Substances as Factor in Normal Osteogenesis and in Healing of Rickets. A. de Bosányi, Baltimore.—p. 780.
*Intrathoracic Tumors in Children. H. L. Dwyer and F. C. Helwig, Kansas City, Kan.—p. 799.
*Basophilic Aggregation in New-Born. A. Friedlander and C. Wiedemer, Cincinnati.—p. 804.
*Blood Platelet Counts in Infants and Young Children. S. McLean and J. P. Caffey, New York.—p. 810.
*Carbohydrate Metabolism of Marantic Infant. F. F. Tisdall, T. G. H. Drake and A. Brown, Toronto.—p. 829.
*Carbohydrate Metabolism of Infants with Diarrhea, Infections and Acute Intestinal Intoxication. F. F. Tisdall, T. G. H. Drake and A. Brown, Toronto.—p. 837.
*Colloidal Benzoin Reaction in Acute Poliomyelitis. J. C. Regan, Brooklyn.—p. 844.
Development and Size of Heart in Children, Revealed by Teleroentgen Ray Measurements. T. Ziskin, Minneapolis.—p. 851.
Postvaccinal Purpura: Case. A. B. Schwartz, Milwaukee.—p. 856.

Dried Human Milk as Infant Food.—Human milk, in dried form, with an average age of 100 days, has been acceptable to a small group of babies as a food. Dried human milk has been fed to this group over an average time of thirty-four days. A small number of poorly nourished babies, fed on dried human milk fortified with sugar, gained rapidly in weight only after the addition of protein. Emerson says that after being taken off dried human milk, the babies gained well on a cow's milk formula. This may have been due to the increased amount of protein.

Sugar Content of Blood and Cerebrospinal Fluid in Various Diseases.—In a series of nonmeningitic fluids examined by Levinson, the cerebrospinal fluid sugar varied between 46 and 76 mg. per hundred cubic centimeters of fluid. The lowest figure (46 mg.) was obtained in a case of brain abscess, with a turbid fluid containing many leukocytes. The next lowest figure was 50 mg. per hundred cubic centimeters. The cerebrospinal fluid sugar bore no direct relation to the blood sugar. The cerebrospinal fluid sugar in all forms of meningitis was low, varying from 45 mg. to a mere trace. In one case of meningococcus meningitis the sugar was unusually high a few hours after onset, but came down to 25 mg. in less than twenty-four hours. The blood sugar in the cases of meningitis varied between 84 and 176 mg. per hundred cubic centimeters. The sugar in the cerebrospinal fluid in a case of encephalitis showed an insignificant rise one hour after injection of glucose, and a rise of 8 mg. three hours after the injection of glucose. Another time, it showed a rise of 11 mg. in two and one-half hours. There was a rise of from 4 to 7 mg. in the cerebrospinal fluid sugar in a case of tuberculous meningitis one hour after the injection of glucose. In one case, there was a marked rise in the cerebrospinal fluid sugar two and one-half hours after injection (34 mg.). In another case, the cerebrospinal fluid sugar was practically at the preinjection level. The same variation was true three hours after the injection of glucose.

Protein Substances Possess Osteogenic Power.—According to Bosányi, certain proteins, presumably histones, with a high content of arginine, play an important rôle in the process of normal ossification. These substances are produced in the bone marrow. The primary event in the healing of the rickety process in the bone is its calcification due to local alteration in the rickety tissue. The changes in the chemical constitution of the blood serum, especially as regards the inorganic phosphorus, though they follow calcification of the bone very rapidly, are of a secondary nature and are sequelae of the calcification.

Intrathoracic Tumors in Children.—Dwyer and Helwig report a case of sarcoma in a child, aged 12, arising from the inner aspect of a rib and filling the right thoracic cavity, producing atelectasis of the right lung and displacement of the heart and mediastinal structures.

Basophils of New-Born.—Friedlander and Wiedemer state that the number of basophilic cells in the blood of the newborn vary between 15,000 and 18,000 per cubic millimeter, and decrease uniformly until by the tenth day the normal for adult blood has been reached.

Blood Platelet Count in Infants and Children.—Four hundred platelet counts were made by McLean and Caffey in 352 different infants and young children. The platelet counts in normal infants and children fluctuate between approximate limits of from 200,000 to 550,000, with a general average of 349,000. The number of platelets in the new-born and in premature infants is fixed within narrower limits and has lower averages, 278,000 and 246,000, respectively. The platelet count in early life approximates the normal count in adults. A reduction in the number of platelets occurred in only three of fourteen patients with severe anemia. Removal of the spleen caused a slight increase in the platelet count. The platelet count was definitely reduced in three cases of lymphatic leukemia. In 173 cases of acute infection occurring in infancy and early childhood, there was no significant alteration in the number of platelets. In the pathologic conditions studied in this group of cases, estimation of the blood platelets was of no valuable diagnostic aid, except in cases of acute lymphatic leukemia.

Carbohydrate Metabolism of Marantic Infant.—There is no evidence from a review of the literature and from the work done by Tisdall, Drake and Brown that the marantic infant is not able to digest and absorb carbohydrate as readily as the normal infant. When feeding the marantic infant, it should be remembered that on the basis of the mass of active protoplasmic tissue, 70 calories per pound daily for the marantic infant is the exact equivalent of 45 calories per pound daily for the normal infant.

Carbohydrate Metabolism of Infants with Intestinal Disturbances.—The results given by Tisdall et al. would indicate that in infants with diarrhea, infection or acute intestinal intoxication, there is a derangement of the carbohydrate metabolism not primarily associated with a deficient production of insulin. Glucose injected into the blood stream of infants with diarrhea, infection or acute intestinal intoxication is not removed as rapidly as in the normal infant.

Colloidal Benzoin Reaction in Poliomyelitis.—A study of the spinal fluid in acute poliomyelitis was made by Regan with the colloidal benzoin reaction. In all, fifty fluids from twenty-three patients were examined at intervals varying from the fourth to the sixtieth day of the disease. A reaction was obtained in every spinal fluid, except one, examined during the first three weeks of the disease. The reaction was almost constantly present in the first three weeks of the disease. From the fourth week on, a negative test occurred with increasing frequency, and most fluids examined after the sixth week were normal. There was no relation between the height of the cell count and the extent of the precipitation of colloidal benzoin. There was a rough but definite relation between the quantity of albumin and globulin in the spinal fluid and the extent of the precipitation of colloidal benzoin.

American Journal of Ophthalmology, Chicago

8: 929-992 (Dec.) 1925

Ocular Protection for Laboratory Workers. J. M. Patton, Omaha.—p. 929.
Eyedness and Handedness. L. Mills, Los Angeles.—p. 933.
Sarcoma of Caruncle. J. G. Dorsey and W. G. Gillett, Wichita, Kan.—p. 942.
Pupillometer. C. E. Feree and G. Rrand, Bryn Mawr, Pa.—p. 945.
Etiology and Pathology of Phlyctenular Keratoconjunctivitis. A. H. Aland, Ogden, Utah.—p. 948.
Unilateral Proptosis Due to Scurvy. Brooklyn.—p. 955.

American Journal of Public Health, Albany, N. Y.

15: 1041-1140 (Dec.) 1925

An Association with a Future. H. F. Vaughan, Detroit.—p. 1041.
Cost of Public Health Work. A. W. Freeman, Baltimore.—p. 1046.
Future Development in Industrial Hygiene. D. C. Parmenter, Boston.—p. 1050.
Sanitary Control of Beverages. H. J. Knapp and E. B. Buchanan, Cleveland.—p. 1053.
Self-Purification of Oysters During Hibernation. S. DeM. Gage and F. P. Forham, Providence, R. I.—p. 1057.
Mental Hygiene: Its Relation to Public Health. C. P. Emerson, New York.—p. 1062.
Laboratory Aspects of Oyster Pollution. L. M. Wachter, Albany.—p. 1066.
Place of Sanitary Engineering in Public Health Activities. G. W. Fuller, New York.—p. 1069.
Advancements in Public Health Nursing. A. E. Dines, New York.—p. 1073.
Mediums Used in Shipping Specimens for Isolation of Typhoid Bacilli. E. M. Wade, W. I. Kelly and M. E. Giblin, Minneapolis.—p. 1075.
Registration the Foundation of Vital Statistics. W. H. Davis, Washington, D. C.—p. 1078.
Should Health Examination Be a Screening or Diagnosis? M. E. Champion, Boston.—p. 1083.
Brief Review of Vital Statistics. E. Sydenstricker, Washington, D. C.—p. 1086.

Annals of Clinical Medicine, Baltimore

4: 285-364 (Oct.) 1925

Human Organism as Energy System. W. A. White, Washington, D. C.—p. 285.
What Special Training Should General Practitioner Have to Conduct Satisfactorily Annual Physical Examination? M. E. Higgins, Washington, D. C.—p. 293.
*Calcium Deficiency in Asthma, Hay-Fever and Allied Conditions. G. T. Brown and O. B. Hunter, Washington, D. C.—p. 299.
Bismuth in Therapy of Syphilis. O. L. Mulot, Brooklyn.—p. 307.
Pulmonary Exercise in Treatment of Tuberculosis. M. J. Breuter, Lincoln, Neb.—p. 314.
Streptococcic Infection. B. M. Randolph, Washington, D. C.—p. 321.
Present Status of Control of Scarlet Fever. R. O. Clock, Pearl River, N. Y.—p. 327.
*Treatment of Erysipelas with Mercurochrome-220 Soluble. W. W. Eldridge, Washington, D. C.—p. 333.
*Acute Pulmonary Abscess Following Tonsillectomy Treated with Artificial Pneumothorax. W. D. Tewksbury, Washington, D. C.—p. 347.
Sterility in Male: Surgical Treatment. F. R. Hagner, Washington, D. C.—p. 350.

Calcium Deficiency in Asthma and Hay-Fever.—In a series of 166 consecutive patients on whom calcium determinations were made by Brown and Hunter, 39 per cent had a definite calcium deficiency, 24 per cent were low normal and 37 per cent were normal. There were 100 patients with asthma. Of these, 42 per cent had a definite calcium deficiency, 23 per cent were low normal and 35 per cent were normal. There were forty-three patients with perennial hay-fever or hyperesthetic rhinitis. Of these, 37 per cent had a definite calcium deficiency, 21 per cent were low normal and 42 per cent were normal. There were thirty-two cases of typical seasonal or pollen hay-fever. Of these, 28 per cent had a definite calcium deficiency, 34 per cent were low normal and 38 per cent were normal. There were fifteen cases of eczema. Forty per cent of these were calcium deficient, 20 per cent were low normal and 40 per cent were normal. All patients with any degree of calcium deficiency were advised to eat plenty of the foods that are rich in lime and to get as much sunshine as possible. The foods that are particularly rich in calcium are eggs (yolk chiefly), fresh milk, cheese, whole wheat or bran bread, oranges and other fresh fruits, carrots, cabbage and other green leafy vegetables, oatmeal, dried beans, prunes, almonds, walnuts and peanuts. Patients with a low normal calcium were all given calcium lactate, from 3 to 10 grains (0.2 to 0.65 Gm.) three or four times a day, and parathyroid, from 1/20 to 1/10 grain (3 to 6 mg.) from two to four times daily, or thyroid, from 1/10 to 1/2 grain (6 to 30 mg.) from one to three times a day or both, by mouth. Patients with a definite calcium deficiency also received quartz lamp treatments. Gratifying results were obtained in 54 per cent of the calcium deficient cases; definite improvement in an additional 43 per cent, and in only 3 per cent of the cases was the treatment a failure.

Treatment of Erysipelas with Mercurochrome.—In the cases reported by Eldridge, a 5 per cent solution of mercurochrome-220 soluble was applied to the affected area with cotton swabs, once daily, until the eruption was well on its way toward subsidence. In only one case did the affected area show any tendency to spread after the first application of the drug, and in this there was no spreading after the second application. Two patients developed a secondary area of eruption on another part of the body on the third or fourth day after the initial eruption, but the secondary eruption, being treated immediately after appearance, subsided almost at once. The initial eruption in all the cases was seen and treated in the first twenty-four hours after its appearance. The treatment of three cases by cold compresses was undertaken for comparative purposes. It is interesting to note that two of these patients developed serious complications, one of them dying, and that all three showed a tendency for the eruption to spread freely. On the other hand, only one of the eight cases treated with mercurochrome developed any complication, and this one not serious.

Pneumothorax Treatment of Acute Pulmonary Abscess.—The results obtained by Tewksbury in thirty-five cases has convinced him that pneumothorax treatment properly used is the most successful method of treating acute pulmonary abscess. It is accompanied by no shock and by little pain, and gives quick results, complete absorption of the abscess taking place within a few weeks.

Archives of Neurology and Psychiatry, Chicago

14: 731-856 (Dec.) 1925

*Tay-Sachs Disease. C. Schaffer, Budapest, Hungary.—p. 731.
*Breech Delivery in Relation to Injury of Spinal Cord; Infantile Paraplegia. F. R. Ford, Baltimore.—p. 742.
*Recording Muscular Tremors. C. G. Beall, Fort Wayne, Ind.—p. 751.
*Tonic Neck Reflexes; Tuberculous Meningitis. I. S. Wechsler and S. Brock, New York.—p. 758.
Behavior Disorders in Children. I. Psychologic Examination. B. L. Beverly, Chicago.—p. 769.
Id. II. Medical Aspects. H. M. Adler, Chicago.—p. 778.
Id. III. Psychanalytic Studies. D. M. Levy, Chicago.—p. 786.
Vibratory Sensation. R. S. Ahrens, Minneapolis.—p. 793.
*Lumbar Puncture Headache. B. J. Alpers, Philadelphia.—p. 806.
Spina Bifida Occulta Cervicalis; Case. G. B. Hassin, Chicago.—p. 813.
*Basal Metabolism in Mental Disease. K. M. Bowman and C. C. Fry, Boston.—p. 819.

Tay-Sachs Disease.—Schaffer points out that the systemic heredofamilial nervous diseases from the histopathologic standpoint are marked by three features: germ layer selectivity, system selectivity and segment selectivity. These three fixed factors form a factor triad, and they attest an embryologically determined substratum. They are genotypic or idiotypic diseases, and so they can be explained only by the laws of embryology. In general, they are ectodermogenous diseases rather than ectodermotropic diseases. The term ectodermogenia means genotypia; ectodermotropia is synonymous with paratypia. As an example: Take as a phenotype, first, the spastic paralysis of Strümpell or hereditary spastic paralysis, and, second, the syphilitic spinal paralysis of Erb; the first corresponds to idiotypic familial diseases, the second to paratypic nonfamilial diseases. For the first the factor triad is in evidence; in the second there is an exogenous factor (syphilis) which affects a systemic group (lateral tracts), and in this way imitates true familial spastic paralysis. Schaffer has tabulated some of the most important heredofamilial nervous diseases in relation to the factor triad.

Breech Delivery Causes Spinal Cord Lesions.—Six cases of spinal cord lesions resulting from traction during breech extraction are described by Ford, and one necropsy is reported. Five cases showed complete interruption of conduction in the cord. The lesion was high in the thoracic segments in the surviving patients, and in the fatal case the cervical enlargement was involved. Complete paralysis of the lower intercostals, spinal, abdominal and all leg muscles regularly resulted. The bladder discharged urine automatically, but there was always constipation. Sensory loss was usually demonstrable up to the midthoracic segments. Spinal reflexes below the level of the lesion varied in different cases, but on the average were greater than in adults. Complete "mass reflex" was observed in two cases. Five showed the flexion reflex and active tendon reflexes. In five cases the muscles of the legs were slightly flaccid on passive movement, but no atrophy could be demonstrated. Trophic and vasomotor changes were remarkably inconspicuous. No clinical or roentgen-ray evidence of injury to the spinal column was found. One necropsy showed no dislocation or fracture. Five

of the cases reported were seen within two years, and it seems that such cases are more frequent than is generally believed. In all cases delivery was difficult, and in two cases it is certain that excessive force was employed in extraction.

Recording Muscular Tremors.—Beall describes a vibration recorder by means of which muscle tremors can be recorded without the interference of a mechanical agency between the movements themselves and the graph. The operation of the instrument is somewhat similar to that of an ordinary camera. It can therefore be operated by any physician without previous experience with or special knowledge of this type of instrument. The resulting record is termed a tremograph.

Tonic Neck Reflexes in Tuberculous Meningitis.—The fact that tonic neck reflexes occur frequently in tuberculous meningitis, according to Wechsler and Brock, is noteworthy, although not necessarily specifically diagnostic. That they have been observed in children with hydrocephalus and amaurotic family idiocy is of interest, but not from a diagnostic point of view. Much more extended clinical observations and pathologic correlations are necessary before definite conclusions can be drawn.

Lumbar Puncture Headache.—Alpers asserts that patients who show a marked fall in spinal fluid pressure after lumbar puncture are prone to develop lumbar puncture headache. Pituitary extract (1 cc. intramuscularly) is of great benefit in most cases of lumbar puncture headache. Hypotonic saline solution (100 cc. of a 0.5 per cent solution) is of value in severe and persistent cases of postpuncture headache.

Basal Metabolism in Mental Disease.—The basal metabolism of 161 cases of mental disease was studied by Bowman and Fry. In twenty-four cases of schizophrenia (dementia praecox), seven showed abnormally low readings. Eighteen of twenty-four cases showed minus readings. The manic depressive group showed a tendency toward low readings in the depressive and hypomanic stages, but this tendency was not as pronounced as in the schizophrenic cases. The cases of psychosis with epilepsy and epilepsy without psychosis were mostly within normal limits, but there was a tendency toward minus readings rather than plus readings. The cases of psychosis with mental deficiency and mental deficiency without psychosis were mostly within normal limits, but there was a definite tendency toward plus readings. Nineteen cases of psychopathic personality were studied. Seven of these showed abnormally low readings and two abnormally high readings. Fifteen of the nineteen cases showed minus readings. It would therefore appear that in three important conditions in which the emotional life of the individual is primarily involved, namely, schizophrenia, manic depressive psychosis and psychopathic personality, there is a definite tendency toward a low basal metabolism, and that very few cases show an increased basal metabolism.

Canadian Medical Association Journal, Montreal

15: 1191-1288 (Dec.) 1925

Contacts with Nature in Medical Practice. H. M. Speechly.—p. 1191.
Appreciation of Anatomic Relationships. J. C. B. Grant.—p. 1195.
*Value of Roentgen Rays in Obstetrics. R. Mitchell and M. R. MacCharles.—p. 1202.
Classification of Postoperative Pulmonary Lesions. N. B. Gwyn.—p. 1205.
Evaluation of Surgical Risks from Standpoint of General Practitioner. F. H. McMechan.—p. 1209.
Physiotherapy. F. W. Harvey.—p. 1218.
Osteomyelitis: Treatment; Use of Bipp. A. P. MacKinson.—p. 1222.
Fractures. S. B. MacMillan.—p. 1226.
Acute Suppurative Appendicitis. W. A. Lincoln.—p. 1229.
Recent Advances in Surgery. W. O. Stevenson.—p. 1232.
Obstetric Retrospect. O. Bjornson.—p. 1236.
Bronchial Asthma; Twenty-Eight Cases. E. H. Chant.—p. 1240.
Mal de Siam (Yellow Fever). J. J. Heagerty.—p. 1243.
Importance of Dental Surgeon in Medicine and Value of Radiography in Dental Practice. B. R. Mooney.—p. 1245.
Fracture of Skull in Child; Treated by Repeated Puncture of Cisterna Magna. H. M. Elder.—p. 1248.
*Case of Larva Migrans. J. K. Pomeroy.—p. 1249.
Carcinoma of Thyroid with Metastases. F. W. Luney.—p. 1249.

Value of Roentgen Ray in Teaching Obstetrics.—Mitchell and MacCharles have found that, in the teaching of obstetrics, well chosen and clear plates will serve to illustrate didactic lectures. The position and attitude of the fetus in utero can be shown vividly, and the roentgen-ray film of a hydrocephalic head once seen will never be forgotten. Knowledge presented through the medium of the eye is readily apprehended.

Larva Migrans.—Pomeroy relates the case of a woman who consulted him regarding a rash on the abdomen. She stated that she had a habit of lying prone when weeding the garden. There was a wheal starting near the umbilicus on the right side and ending about 8 inches farther to the right after describing circles. The apparent site of entrance was of a dull inflammatory color; the other end had a bright inflammatory color. It was neither painful nor tender. The probable diagnosis was that it was a case of larva migrans. The skin was frozen with ethyl chloride, which apparently killed the larvae, because Pomeroy's attempt to obtain them was not successful.

Chicago Society of Medical History Bulletin, Chicago

3: 339-500 (Sept.) 1925

Beginnings of Medical Education in and Near Chicago. G. H. Weaver, Chicago.—p. 339.
Elihu Hubbard Smith: Physician, Editor, "Connecticut Wit." H. Thoms, New Haven, Conn.—p. 471.
Liharzik: His Law of Human Growth. A. Levinson, Chicago.—p. 479.
James Stewart Jewell. H. N. Moyer, Chicago.—p. 488.
Removal of Foreign Bodies from Respiratory Tract. S. A. Friedberg, Chicago.—p. 495.

Journal of Biological Chemistry, Baltimore

66: 1-342 (Nov.) 1925

*Influence of Pregnancy on Lipoids of Blood. M. Tyler and F. P. Underhill, New Haven, Conn.—p. 1.
Technic for Studying Vitamin B. A. H. Smith, G. R. Cowgill and H. M. Croll, New Haven, Conn.—p. 15.
Solubility of Tertiary Calcium Phosphate in Cerebrospinal Fluid. L. E. Holt, Jr., Baltimore.—p. 23.
Determination of Cystine by Means of Feeding Experiments. H. C. Sherman and E. Woods, New York.—p. 29.
Immunologic Properties of Alcohol Soluble Vegetable Proteins. IV. Biologic Reactions of Vegetable Proteins. J. H. Lewis and H. G. Wells, Chicago.—p. 37.
*Effect of Fermentation with Specific Micro-Organisms on Vitamin C Content of Orange and Tomato Juice. S. Lepkovsky, E. B. Hart, E. G. Hastings and W. C. Frazier, Madison, Wis.—p. 49.
Rôle of Cystine and Certain Mineral Elements in Nutrition. E. Woods, New York.—p. 57.
Condensation Products of Acetoacetic Ester. II. Oxidation and Possible Relationship to Antiketogenesis in Animal Body. E. S. West, St. Louis.—p. 63.
Body Fluids of Honey Bee Larva. II. Chemical Constituents of Blood; Their Osmotic Effects. G. H. Bishop, A. P. Briggs and E. Ronzoni, St. Louis.—p. 77.
*Effect of Changes in Circulation on Carbohydrate Utilization. F. A. Cajori, C. Y. Crouter and R. Pemberton, Philadelphia.—p. 89.
Soft Pork Studies. I. Formation of Fat in Pig on Ration Moderately Low in Fat. N. R. Ellis and O. G. Hankins, Washington, D. C.—p. 101.
Properties and Composition of Oocytin. II. G. W. Clark and P. W. Sharp, Berkeley, Calif.—p. 123.
Parathyroid Hormone (Second Paper). J. B. Collip and E. P. Clark, Edmonton, Alberta.—p. 133.
Influence of α-Hydroxystearic Ethyl Ester on Acidosis. R. West and E. M. Benedict, New York.—p. 139.
Antirachitic Value of Irradiated Cholesterol and Phytosterol. IV. Factors Influencing Biologic Activity. A. F. Hess, M. Weinstock and E. Sherman, New York.—p. 145.
*Clinical Calorimetry. XXXIX. Exercise and Respiratory Quotient in Diabetes. H. B. Richardson and S. Z. Levine, New York.—p. 161.
*Effect of Thyroparathyroidectomy in Dogs on Excretion of Calcium, Phosphorus and Magnesium. I. Greenwald and J. Gross, New York.—p. 185.
Excretion of Calcium, Phosphorus and Magnesium After Injection of Calcium Chloride, Sodium Phosphate or Both. I. Greenwald and J. Gross, New York.—p. 201.
Effect of Administration of Potent Parathyroid Extract on Excretion of Nitrogen, Phosphorus, Calcium and Magnesium; Solubility of Calcium Phosphate in Serum; Pathogenesis of Tetany. I. Greenwald and J. Gross, New York.—p. 217.
Mineral Metabolism of Lymph Following Injections of Levo- and Dextro-Suprarenin, Pituitrin and Pilocarpine. W. F. Petersen and T. P. Hughes, Chicago.—p. 229.
*Concentration of Chlorides in Glomerular Urine of Frogs. J. T. Wearn and A. N. Richards, Philadelphia.—p. 247.
Quantitative Estimation of Minute Amounts of Urea. J. T. Wearn and A. N. Richards, Philadelphia.—p. 275.
Carbohydrate Utilization. I. Rate of Disappearance of *d*-Glucose from Blood. V. du Vigneaud and W. G. Karr, Philadelphia.—p. 281.
pK′ of Henderson-Hasselbalch Equation for Hydrion Concentration of Serum. G. E. Cullen, H. R. Keeler and H. W. Robinson, Philadelphia.—p. 301.

Carbon and Nitrogen Transformations in Decomposition of Cellulose by Filamentous Fungi. H. Heukelekian and S. A. Waksman, New Brunswick, N. J.—p. 323.

Influence of Pregnancy on Blood Lipoids.—The total ether extract of whole blood in pregnant women, according to Tyler and Underhill, is higher than the nonpregnant values as early as the third month of pregnancy, and there is an increase from then till term. The average value for the total ether extract in eleven cases at term is, roughly, 50 per cent higher than the nonpregnant values, and 30 per cent higher than the value at three months.

Effect of Fermentation on Vitamin C.—Attempts to determine the cause for the disappearance of vitamin C from fermented corn (silage) and fermented cabbage (sauerkraut) have been made by Lepkovsky et al. The action of several organisms occurring in silage has been studied, but it has not been shown that they destroy vitamin C. For this study a technic involving the use of petrolatum for exclusion of air from the fermenting mixture has been developed. With this technic, the destructive action of oxygen on vitamin C can be excluded. While not all the organisms occurring in silage have been included in these studies, it is very probable that the destruction of vitamin C in masses of fermenting plant tissue is to be referred to the oxygen still retained in the mass.

Effect of Circulation Changes on Carbohydrate Utilization.—Some of the factors concerned in determining the rate of sugar removal and hence the shape of the blood sugar curve following alimentary administration of glucose are discussed by Cajori and his associates. In a study of the low sugar tolerance of arthritis, it has been shown that by interfering with the blood supply to large muscle masses through elevation of the legs and one arm, an exaggerated and prolonged hyperglycemia can be induced in some subjects. These facts are interpreted as indicating that the rate at which sugar leaves the blood after glucose ingestion can be influenced by the character of blood supply to tissues active in sugar removal. Purely mechanical factors should be taken into consideration in interpreting the nature of a low sugar tolerance.

Exercise and Respiratory Quotient in Diabetes.—Richardson and Levine found that the respiratory quotient of the exercising diabetic patient is depressed below the basal level. Reasons are given for the belief that this depression is evidence of a decrease in the proportion of carbohydrate undergoing metabolism. From a review of the available evidence, the conclusion is drawn that fat can be oxidized in the mammalian organism without preliminary conversion into carbohydrate.

Effect of Parathyroidectomy on Calcium Excretion.—It is the belief of Greenwald and Gross that the parathyroid hormone is the substance that keeps calcium phosphate in solution, or, at least, that it is necessary to the preparation of this hypothetic substance. Their experiments, however, seem to indicate that the substance does not merely retard the precipitation of calcium phosphate but actually dissolves it; whether by combination with calcium phosphate, or both, it is impossible, at present, to determine. Experiment animals received practically no calcium in their food. Yet the calcium content of the blood was increased. This must have been at the expense of certain tissues. Since the increased excretion of calcium was regularly accompanied by an approximately equivalent increase in the excretion of phosphorus, it is not unreasonable to assume that both calcium and phosphorus were derived from bone, particularly since there seems to be no other tissue that could supply the large amounts lost. The authors believe that removal of the parathyroids leads to a prompt shortage of this hypothetic substance. Consequently, calcium phosphate is precipitated. There is a prompt decrease in the excretion of phosphate. The concentration of phosphate in the plasma is kept at its normal level or even above that by the phosphate derived from the metabolism of proteins, phosphatides, etc., but the calcium content must fall unless calcium salts are administered. Large amounts of these are necessary because much of the calcium is precipitated as soon as it is absorbed. Excess of parathyroid secretion leads to excessive solution of calcium phosphate from the bones and, possibly, other tissues, and to an increase in the concentration of both calcium and phosphate in the blood. The kidney speedily removes the excess of the latter, so that the increase may be too slight to be detected by present methods. The increase in the concentration of calcium is much more evident. Both substances are excreted in increased amounts and in approximately equivalent proportions.

Chloride Concentration in Glomerular Urine.—The nephelometric method of T. W. Richards for the estimating of minute amounts of chlorine has been applied by Wearn and Richards to the study of the chloride concentration of the glomerular urine, collected from frogs in thirteen experiments under various conditions. Comparison of the chloride concentrations of glomerular and bladder urines simultaneously eliminated confirms the qualitative evidence previously advanced in proof of glomerular elimination and tubular resorption of chloride. The figures show that chloride is absorbed at a faster rate than water, even when plasma chloride is more than double its normal value as a result of injection of sodium chloride. In ten of thirteen experiments the plasma chloride concentration also was determined. In all but one of these, glomerular chloride was higher than plasma chloride. In seven instances, the difference amounted to more than 15 per cent of the latter; in four, to more than 28 per cent. Conceding the possibility of errors of technic amounting to 10 per cent, the authors conclude that the filtration theory, as at present defined, is not adequate to explain their results. If subsequent work shall confirm these, it is clear that the processes concerned in glomerular filtration require further study.

Medical Journal and Record, New York

72: 713-780 (Dec. 16) 1925

Proteins and Human Metabolism. W. H. Porter, New York.—p. 713.
Puerperal Sepsis in Wales. Sir E. Maclean, Cardiff, Wales.—p. 719.
Puerperal Sepsis. E. A. Schumann, Philadelphia.—p. 722.
Education of Asthmatic. G. N. Jack, Buffalo.—p. 726.
Technician Problem. J. C. Block, Milwaukee.—p. 731.
Unrelated Disease a Factor in Diphtheria Virulence. D. M. Lewis, New Haven, Conn.—p. 732.
Myxomembranous Colitis. C. Goldman, Brooklyn.—p. 733.
Sarcoma of Bladder. W. R. Jamieson, El Paso, Texas.—p. 734.
Benign Tumors of Anus and Rectum. C. J. Drueck, Chicago.—p. 735.
Bloodletting. C. G. Cumston, Geneva, Switzerland.—p. 738.

Philippine Islands Medical Association Journal, Manila

5: 319-352 (Nov.) 1925

Internal Alexander Operation in Uterine Retroversion. F. Calderon.—p. 319.
Case of Bilateral Subclavian Aneurysm. C. Reyes.—p. 321.
First Case of Laryngectomy in Philippine General Hospital. A. R. Ubaldo and A. S. Fernando.—p. 323.
Complete Traumatic, Transverse Rupture of Intestines Without Marked External Injuries. P. Anzures.—p. 328.
Tertiary Manifestations of Yaws in Larynx. C. D. Ayuyao.—p. 331.

South Carolina Medical Association Journal, Greenville

21: 287-310 (Dec.) 1925

Prostatism. J. J. Ravenel, Charleston.—p. 289.
Value of Roentgen Rays and Radium in Treatment of Menorrhagia and Fibroids. W. M. Sheridan, Spartanburg.—p. 290.
Diabetic Coma. T. R. Littlejohn, Sumter.—p. 292.
Hexamine Intravenously in Postoperative Urinary Retention. A. E. Baker, Jr., Charleston.—p. 294.
Postgraduate Study in European Clinics. W. B. McWhorter, Anderson.—p. 297.

Southwestern Medicine, Phoenix, Ariz.

9: 457-506 (Dec.) 1925

Diagnosis of Cancer. J. H. Musser, New Orleans.—p. 461.
Recent Views of Cancer: Ocular Manifestations. E. Jackson, Denver.—p. 466.
Iodin in Treatment of Goiter. A. C. Scott, Jr., Temple, Texas.—p. 471.
Significance of Thyroid Disorders to General Practitioner. H. H. Latson, Amarillo, Texas.—p. 474.
Medical Treatment of Goiter. F. M. Barnes, El Paso, Texas.—p. 478.
Inherited Syphilis. R. A. Hernandez, Tucson.—p. 480.
Uterus Gravidus in Pendulous Belly. R. A. Hernandez, Tucson.—p. 482.—p. 482.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Dermatology and Syphilis, London

37: 503-562 (Dec.) 1925

Roentgenotherapy in Diseases of Skin. H. Fox.—p. 503.
*Relationship of Syphilis to Other Dermatoses. E. F. Skinner.—p. 507.

Relation of Syphilis to Other Dermatoses.—Skinner urges that all cases of lupus erythematosus, erythema nodosum, Raynaud's disease, chilblains, lichen planus and varicose ulcers of the leg should be suspected until the possibility of syphilitic etiology has been excluded. Though the percentage of such cases may not be very great, it is yet sufficiently high to suggest that many of the common dermatoses may be fathered by different causes, which lends support to the view that possibly all or nearly all skin diseases are merely pattern reactions set in motion by certain combinations of circumstances.

British Medical Journal, London

2: 1161-1206 (Dec. 19) 1925

Hyperpiesia. Dawson.—p. 1161.
Id. II. Physiologic Factors in Hyperpiesia. E. H. Starling.—p. 1163.
Id. III. Features of Hyperpiesic Crisis. H. B. Shaw.—p. 1165.
Id. IV. Mortality in Relation to Hyperpiesia. O. May.—p. 1166.
Id. V. Geoffrey Evans.—p. 1167.
Id. VI. Electric Treatment of Hyperpiesia. F. H. Humphris.—p. 1168.
Respiration in Anesthesia: Control by Carbon Dioxide. Y. Henderson. —p. 1170.
Hemorrhage in Association with Pregnancy, Labor and Puerperium. J. W. Bride.—p. 1176.
Nonsyphilitic Argyll Robertson Pupil. W. S. Inman.—p. 1179.
*Cyesedema: Peculiar Bloating of Pregnancy. A. A. Lendon.—p. 1179.

Cyesedema.—Lendon has seen this accompaniment of pregnancy very pronounced in six of 363 consecutive cases since he first observed the condition in 1901. It is a peculiar bloating or swelling, which is quite distinct, on the one hand, from anasarca or ordinary pitting dropsy, and, on the other hand, from the solid swellings, such as myxedema, which it certainly more nearly resembles. It affects the whole body, but attracts more attention in the face, as it so greatly alters the features of a young woman as almost to make her unrecognizable toward the end of pregnancy. It has occurred only in primiparas. It disappears with considerable rapidity after the labor is over. It has not recurred in subsequent labors. Though not specially associated with postmaturity, according to the maternal reckoning, the babies have been large. In two cases there was some albuminuria but no other recognized indication of the so-called toxemia of pregnancy.

China Medical Journal, Shanghai

34: 975-1066 (Nov.) 1925

*Incidence of Human Intestinal Protozoan Infections in Seoul, Korea. J. F. Kessel.—p. 975.
Ethmoidectomy, or Exenteration of Ethmoid Labyrinth. F. E. Dilley.—p. 989.
*Subcutaneous Lesions in Intracutaneous Test for Virulence of Diphtheria. C. E. Lim.—p. 996.
*Extensive Tuberculosis of Eye in Infant. T. M. Li.—p. 1002.
Review of One Hundred Necropsies on Shanghai Chinese. F. Oppenheim. —p. 1011.
*Simple Blood Coagulometer. R. A. Peterson.—p. 1026.
Rat-Bite Fever: Case. C. M. Galt.—p. 1029.
Physical Growth Among Chinese Females and Males of Chekiang. S. M. Shirokogoroff.—p. 1029.
Fuel Value of Chinese Foods. W. H. Adolph and Wei-Hsin Hsu.—p. 1041.
Influence of Chinese Diet on Disease. J. W. H. Chun.—p. 1046.
Problems of Infant Feeding in Orient. C. D. Leach.—p. 1049.

Intestinal Protozoan Infections in Korea.—Infection with *Endameba dysenteriae* shows an incidence of 41 per cent among the Koreans examined by Kessel in the Seoul survey, which is 8.5 per cent higher than among the Chinese examined in the Peking survey. Foreigners examined in Seoul show a 25 per cent incidence of infection with *E. dysenteriae*, which is the same as the incidence among foreign adults in Peking. This incidence is more than twice as high as that recorded in Great Britain and in the United States. Nine foreigners having sprue symptoms, given an average of five examinations each, showed an incidence of 66.66 per cent infection with *E. dysenteriae*. *Trichomonas hominis* was found to be much more prevalent in the Korean survey, which was carried on during the summer, than in Peking, where the examinations were made for the most part during the winter. *Giardia* was present in 18 per cent of the Koreans examined, an incidence similar to that recorded by Dobell for Great Britain, and Boeck and Stiles for America. This is, however, higher than found in Chinese and foreigners in China, and higher than found in foreigners in Seoul.

Intracutaneous Test for Diphtheria Virulence.—The intracutaneous test for determining the virulence of *B. diphtheriae* Lim found gives satisfactory results. Throat culture showing presence of suspicious diphtheria organisms is injected intracutaneously without previous isolation in pure culture. To experienced observers, the superficial lesions produced in the intracutaneous test are sufficiently diagnostic; to the inexperienced, the subcutaneous lesions are of value.

Extensive Tuberculosis of Eye in Infant.—The case of ocular tuberculosis reported by Li is interesting, first, because the patient was only 10 months of age, and, secondly, because the eye was extensively involved within one month from the time the parents first noticed the inflammation and swelling of the eye to the time of the enucleation. The choroid and the retina were practically transformed into necrotic tuberculous tissue with numerous tubercles. Within these tubercles, acid-fast bacilli are found. Although no typical tuberculous nodules or acid fast bacilli were found in the iris, ciliary muscle, filtration angle, the cornea and the greater part of the sclera, the optic nerve and its sheaths, yet these structures were densely infiltrated with large mononuclear leukocytes or endothelioid cells. The involvement of the eye was evidently secondary to a pulmonary tuberculosis, which finally developed into an acute tuberculous bronchopneumonia.

Simple Blood Coagulometer.—The apparatus used by Peterson consists of a wide mouthed bottle fitted with a perforated rubber stopper, two platinum wires mounted on metal or glass rods, and a thermometer. The rubber stopper has three perforations, two for mounting the rods and one for the thermometer. The rods should fit firmly but not too tightly. There should be four 3 mm. loops in each platinum wire. The bottle is half filled with water at 100 F. The rods are drawn up so that the lower platinum loops clear the water when the rubber stopper is in place. The blood is obtained by a quick stab with a sharp cataract knife, in preference to the usual needle or stylet. The platinum loops are filled in rapid succession and the stopper immediately placed in position. At the expiration of three minutes from the time of filling the loops, the handle of one of the rods is passed into the bottle far enough to allow the first loop to be submerged completely. If no fibrin has formed, the blood will "lake," leaving the loop clean. At half minute intervals, the rod is pushed down and the next loop submerged. This procedure is continued until one of the loops remains completely occluded by fibrin, indicating that the coagulation process is complete.

Edinburgh Medical Journal

32: 781-876 (Dec.) 1925

*Streptococci Found in Pyorrhea Alveolaris. M. J. Thomson.—p. 781.
Fibrositis. R. G. Gordon.—p. 807.
Mental Invalids. III. Classification of Mental Diseases. C. C. Easterbrook.—p. 817.

Streptococci in Pyorrhea Alveolaris.—Pure growths of hemolytic streptococci were obtained by Thomson in all cases of pyorrhea alveolaris. In no case was the pneumococcus demonstrated by culture or animal inoculation. With one exception, the streptococci isolated from individual cases were of one type (Holman's classification). Three types were encountered: *S. mitis; S. fecalis*, and *S. salivarius*. The virulence of the streptococci was studied experimentally in animals. Arthritic changes were entirely absent in all cases (with one exception, in which the streptococcus was a hemolytic type, derived from a case of osteomyelitis). Endocarditis could be produced by the injection of streptococci alone, and in most cases it was *S. salivarius* that produced this lesion. Definite kidney lesions, mainly of an interstitial type, occurred.

The streptococci could be recovered from the urine over a protracted period after injection, thus demonstrating the action on the kidney during the prolonged process of elimination. The only suppurative lesions that were found occurred in the kidney and in the heart; in all cases these focal infections were due to *S. salivarius*, thus demonstrating its tendency to localize and produce pus, greater than that of *S. fecalis*. Movements of a choreiform type were produced by the injection of streptococci recovered from cases of oral sepsis.

Japan Medical World, Tokyo

5: 341-372 (Dec. 15) 1925

Temporary Field Laboratory at Omiya. R. Takano, M. Katsumata and R. Naito.—p. 341.
Pathologic Studies on Encephalitis Epidemic of 1924 in Japan. T. Uchiyama.—p. 345.
Height of Pulmonary Apex. K. Takada.—p. 348.
Health Organization of League of Nations and Scope of Its Activity. R. Rajchman.—p. 349.

Journal of State Medicine, London

33: 551-600 (Dec.) 1925

Effect of Heliotherapy and Artificial Light Treatment on Mentality of Patients. H. Gauvin and C. A. McCrae.—p. 551.
Human Endamebiasis in Temperate Zones. J. G. Thomson.—p. 563.

Journal of Tropical Medicine and Hygiene, London

28: 413-436 (Dec. 1) 1925

Gongylonema in Northern Italy. H. A. Baylis and J. E. B. Sambon.—p. 413.
Flagellates of Anophelines and Culicines; Description of Crithidial Form in New Host Anopheles Umbrosus from Federated Malay States. J. G. Thomson and A. Robertson.—p. 419.
Treatment of Yaws (Frambesia) with Novarsan. F. Wilson.—p. 424.
Castellani's Fermentation Phenomenon. J. M. Fiallos.—p. 426.
Acquired Immunity to Malarial Inoculation. J. E. Nicole and J. P. Steel.—p. 428.

Medical Journal of Australia, Sydney

2: 597-618 (Nov. 21) 1925

Infant Feeding. H. M. Mayo.—p. 597.
Artificial Infant Feeding. F. N. Le Messurier.—p. 604.
Torsion of Omental Tag. W. R. Groves.—p. 607.
*Death from Anaphylactic Shock. R. A. Money.—p. 607.

2: 619-644 (Nov. 28) 1925

Etiologic Factor as Guide to Treatment in Arthritis, Fibrositis and Allied Conditions. C. B. Blackburn.—p. 619.
Place of Diathermy in Treatment of Sciatica, Fibrositis and Arthritis. J. W. Hoets.—p. 623.
Muscular Movement and Regulation. F. W. Jones.—p. 627.
Complete Transposition of Viscera. Case. B. Maguire.—p. 631.

2: 645-668 (Dec. 5) 1925

Popular Medical Fallacies. A. Stewart.—p. 645.
Dysentery Bacilli as Recovered from Motions of Infants and Young Children. R. Webster and F. E. Williams.—p. 648.

Death from Anaphylactic Shock.—Money's patient died about three minutes after the injection of 20 cc. of antistreptococcal serum, given intramuscularly because of erysipelas of the face which had resisted local treatment.

South African Medical Record, Cape Town

23: 497-520 (Nov. 28) 1925

Natural Cures. C. F. M. Saint.—p. 499.
Anesthesia from Patient's Point of View. R. M. Muir.—p. 503.
*Exophthalmic Goiter. S. E. Kark.—p. 506.

Digitalis in Exophthalmic Goiter.—Kark reports a case of exophthalmic goiter, showing keratitis in both eyes, and in which marked improvement in the patient's condition resulted from massive doses of digitalis. The patient had a very marked tachycardia, felt extremely distressed, and had marked auricular fibrillation. Kark gave 2 drachm (7.5 cc.) doses of tincture of digitalis twice daily. After three days' interval he gave half an ounce (15 cc.) in one dose. But still the patient showed no improvement. After two days' interval he received 6 drachms (22.5 cc.) in a single dose, and lastly 7 drachms (26 cc.) in one dose, two days later again. About five hours after the last dose his pulse became fairly regular, about 90 to the minute, and he felt comfortable and able to sleep. The patient did not feel sick with such a large dose of digitalis.

Bulletins de la Société Médicale des Hôpitaux, Paris

49: 1521-1552 (Dec. 4) 1925

Recklinghausen's Disease with Monoplegia. Babonneix et al.—p. 1521.
Diagnosis of Pancreas Insufficiency from the Duodenal Juice. M. Chiray et al.—p. 1524.
*Cholesterol in Pleural Effusion. C. Mainini.—p. 1534.
Anatomic and Clinical Course of Endocarditis. M. Renaud.—p. 1543.
Encephalitis Beginning with Acute Parkinsonism. H. Eschbach.—p. 1548.
*Salicylate Plus Iodin in Rheumatism. S. I. de Jong and Wolff.—p. 1550.

Pleuritic Effusion with Cholesterol and Tuberculosis.—Mainini treated two cases of pleurisy with cholesterol in the effusion. The patients, aged 28 and 37, had a history of pulmonary tuberculosis apparently cured by an artificial pneumothorax. Hypercholesteremia was manifest in both cases. Under an intrapleural injection of iodized glycerin the limpid effusion with cholesterol changed into an acute tuberculous empyema. This was followed by a reduction of cholesterol in the effusion and in the blood. Lavage of the pleural cavity also induced a simultaneous decrease of cholesterol in the effusion and in the blood, in the other patient. Cholesterol can be found in pleurisy only in a very chronic process. The prognosis of this pleurisy is favorable.

Association of Iodine and Salicylate in Treatment of Chronic Rheumatism.—De Jong and Wolff obtained good results from intramuscular injections of iodine, combined with salicylate by the mouth, in treatment of acute attacks in old rheumatism. They use ampules containing 1 Gm. of sodium iodide in 10 cc. of a 25 per cent glucose solution. In one of their ten patients, 6 Gm. of salicylate by mouth for three days failed to relieve, while 4 Gm. supplemented by injection of iodide banished the pains in two days. The same was observed in another case after failure of four months of other treatment. The iodide is injected into a muscle, close to the affected joint. This combined treatment did not display any special influence in acute articular rheumatism.

49: 1553-1575 (Dec. 11) 1925

*Hemolysis and Hemoglobinuria. P. Emile-Weil and R. Stieffel.—p. 1553.
Mitral Disease and Pulmonary Edema. Magniel.—p. 1557.
Asthma and Paroxysmal Arrhythmia. Magniel.—p. 1559.
*Bile Culture Medium in Typhoid. S. I. De Jong and Hauduroy.—p. 1561.
Fatal Trismus After Skull Trauma. Urechia and Mihalescu.—p. 1566.
*Fatal Case of Chickenpox. R. Debré et al.—p. 1568.
Ouabaine in Heart Disease. Clerc and Bascourret.—p. 1572.

Hemolytic Property of Serum and Plasma in Hemoglobinuria.—Emile-Weil and Stieffel's research was made on the plasma and serum of two patients with hemoglobinuria. The hemolytic property appeared to be entirely different in the two fluids. The hemolytic property of the serum seemed to be an induced phenomenon, independent of the hemoglobinemia. The usual tests for paroxysmal hemoglobinuria seem to demonstrate only a special fragility of the blood, characterized by the presence of hemolysins in the serum. The tests are not specific for hemoglobinuria from chilling, which is probably not a morbid entity. The hemolysis process seems to be connected with defective coagulation. The authors classify eight degrees representing the intensity of the hemolysis process.

Blood Cultures in Typhoid.—De Jong and Hauduroy describe the bacteriologic findings in a case of typhoid fever with recovery. The typhoid bacillus was found in the blood culture, made with bile, by the seventh day of the disease. A simultaneous culture on peptone solution showed no typhoid bacilli till the seventeenth day of the disease. The presence of the bacteriophage was demonstrated in the peptone culture on the tenth day of the disease. The case seems to confirm Hauduroy's statement that the bacteriophage plays an active rôle in the recovery from typhoid fever, and that its presence is significant in the prognosis. The early appearance of the typhoid bacillus in the bile culture is not ascribed to a favorable action of the bile on the growth of the bacillus, but to its inhibiting influence on the lytic action of the bacteriophage.

Fatal Chickenpox.—The patient in Debré and his co-workers' case was a previously healthy woman, eight months pregnant. She died in coma twenty hours after the appearance of fulminating chickenpox. Progressive nervous manifestations and fever appeared simultaneously with the intense

eruption. There was evidently localization of the malignant varicella infection in the skin and central nervous system, both of ectodermal origin. The diagnosis of pregnancy eclampsia was excluded by the clinical picture, and by inoculation of a guinea-pig.

Comptes Rendus de la Société de Biologie, Paris

93: 1197-1264 (Nov. 20) 1925. Partial Index

Structure and Development of Bone Tissue. E. Retterer.—p. 1199.
*Hyperinsulinism. H. Gougerot and E. Peyre.—p. 1202.
*"Nature of the Bacteriophage." F. d'Herelle.—p. 1206.
*Blood Phosphorus and Fibroma. J. Dalsace and Guillaumin.—p. 1208.
Calcium and Phosphorus Metabolism After Castration. Idem.—p. 1209.
*Has Milk an Antigen Property? G. Joannidès.—p. 1210.
*Bacilli of Ozena. G. Blanc and G. Pangalos.—p. 1211.
*Herpetic Encephalitis in Cats. P. Remlinger and J. Bailly.—p. 1217.
*Meinecke Test for Syphilis. S. Mutermilch and A. Compagnon.—p. 1222.
Action of Radium on Neurovaccine. S. Mutermilch and Ferroux. —p. 1226.
*Action of Pancreas on the Vagus. L. Garrelon et al.—p. 1233.
Mechanism of Anthrax Infection. L. Muller.—p. 1243.

Suprarenal Insufficiency with Excessive or Perverted Functioning of the Pancreas.—Gougerot and Peyre observed four cases with symptoms of spontaneous hyperinsulinism as described by Harris, analogous to that from injection of an extra large dose of insulin in diabetics. Hyperinsulinism, revealed by weakness, hypoglycemia and the favorable influence of sugar, was associated in their patients with signs of suprarenal insufficiency. In one instance the morbid condition was familial. Three of the patients were syphilitics. Thus a systematic examination for dysinsulinism should be made in cases with suprarenal insufficiency, and for suprarenal insufficiency in those with disease of the pancreas. Antisyphilitic treatment and suprarenal extract, as well as a diet rich in sugar are indicated in this associated syndrome.

Bordet and Ciuca's Theory of "Transmissible Bacterial Autolysis."—D'Herelle presents arguments to refute Bordet's recent theory of two potential "lysogenic properties," an active or spontaneous and a passive or induced autolysis, as the explanation of bacteriophagy. Bordet's statement was based on the fact that certain bacterial cultures, contaminated by the bacteriophage, can be purified, while others cannot. D'Herelle does not believe that there is evidence for such a distinction. He experimented with bacterial cultures which, after having been exposed to the bacteriophage, had lost the lytic property owing to overgrowth of bacteria with acquired resistance. The culture, sown on agar, showed two kinds of colonies; those contaminated by the bacteriophage, and those not contaminated, the ultrapure. After serial transplanting (about ten) the number of the ultrapure colonies gradually decreased, and finally all the colonies were contaminated by the bacteriophage. Bordet's explanation of this phenomenon is that an active lysogenic property at first becomes passive, but reacquires the active property on serial transplanting. D'Herelle accepts this phenomenon as confirming the theory of the bacteriophage as a parasitic ultravirus, affecting bacteria. Under successive transplantations the acute infectious parasitic disease becomes chronic, a comparative balance being established between the virulence of the parasite and the resistance of the bacterium. Bordet and Ciuca ascribe serial bacteriophagy to an "inherited nutritional defect" caused in the bacterium under the action of leukocyte products. D'Herelle inoculated fresh bacterial cultures with a filtrate containing the bacteriophage. Bacteriolysis developed. The entirely fluid medium was then filtered to exclude all bacteria, or it was heated to a temperature destroying all the bacteria, without killing the bacteriophage. The filtrate thus contained no bacteria that had been in contact with the bacteriophage, but it induced bacteriolysis when inoculated in other normal cultures. The experiment was repeated indefinitely, and always with the same results. It excludes, D'Herelle asserts, a "hereditary nutritional defect" in the bacteria, since there was no heredity. There were no descendants, so there could be no heredity.

Phosphatemia and Fibroma.—Dalsace and Guillaumin noted an exaggerated amount of phosphorus in the blood of women with a fibroma. This, they think, confirms the theory of a special predisposition, favoring the formation of fibromas. Hyperphosphatemia may be one of the factors creating this predisposition. The phosphorus dropped considerably in three of five women after ovariectomy. A reduction of the blood calcium was manifest also in four after the operation.

Does Milk Induce Production of Anatoxin?—Joannidès injected guinea-pigs with cultures of toxic diphtheria bacilli, in broth or milk. While the animals, injected with the bouillon culture, died in sixteen or nineteen hours, those injected with the milk culture survived. The latter group appeared to be immunized in seven or eight days after the inoculation. The same phenomena were observed with tetanus toxin. Further experiments are now being made to establish whether milk has an actual anatoxin producing property, or is merely bactericidal.

Bacilli Causing Fetidity in Ozena.—Blanc and Pangalos made a great number of bacteriologic examinations in patients with ozena. They conclude that the fetid odor accompanying the disease is due to *Bacterium ozaenae* (Perez' bacillus), and to a bacillus which they call *Bacillus ozogenes.*

Transmission of Herpetic Encephalitis.—Remlinger and Bailly inoculated the brains of twenty-four cats with the virus of herpes. Encephalitis developed in seven; followed by recovery in one. Passages through cats, as well as through rabbits, yielded positive results.

Practical Value of Meinicke Test in Diagnosis of Syphilis.—Mutermilch and Compagnon applied in 300 serums the Meinicke turbidity test and fixation of complement reaction. In 197 serums from normal or nonsyphilitic patients, both tests were always negative. In primary and secondary syphilis both methods harmonized. In tertiary syphilis, the Meinicke test was more sensitive in one; in latent syphilis the fixation reaction was more sensitive in one instance. In congenital syphilis both tests were equally specific. Evidently the Meinicke test may advantageously supplement the fixation reaction. It may be the only method of examination in the hands of physicians who lack a well equipped laboratory.

Action of the Pancreas on Tonus and Excitability of the Vagus.—Garrelon, Santenoise and Le Grand's experiments on dogs suggest that insulin exerts a strong stimulating action on the vagus. Removal of the pancreas is followed by a gradual decrease of the pneumogastric tonus and irritability. Injection of blood from a vagotonic animal into a depancreatized animal induces in the latter the reappearing of the pneumogastric tonus and irritability. The blood from a pancreatectomized donor is without effect on the parasympathetic tonus and excitability in the injected animal. The vagus-stimulating substance, secreted by the pancreas, exists in the blood in an amount sufficient to exert the physiologic action. The action is similar to that of the suprarenals on the sympathetic.

Paris Médical

57: 493-508 (Dec. 12) 1925

*Treatment of Spastic Constipation. R. Goiffon.—p. 493.
Classification of Cases of Acute Bronchitis. G. Rosenthal.—p. 496.
Heart Insufficiency with Emphysema. Rouslacroix and Perrimond. —p. 499.
Bone Lesions in Neurofibromatosis. A. Puech.—p. 502.
*Bismuth in Kidney Insufficiency. A. Yarotzky.—p. 506.

Atropinized Charcoal in Treatment of Spastic Constipation.—Goiffon's treatment is based on Wiechowski's experiments showing that substances absorbed by charcoal are released in the colon, thus acting directly on the colon mucosa. He uses a preparation containing 0.0005 Gm. of atropine per teaspoonful of animal charcoal. The preparation was given to seven patients with spastic constipation. Three teaspoonfuls a day were taken at first; later one, and then one or two teaspoonfuls a week. The results, he says, were remarkable. The atropin was well tolerated; it caused a profuse diarrhea, without colic.

Bismuth Carbonate in Renal Insufficiency.—Yarotzky's idea is to combat insufficient functioning of the kidneys by inducing the elimination of sodium chloride and urea by the digestive tract. Up to 50 Gm. of the bismuth carbonate, given daily, may remove a large amount of the chloride from the organism, as bismuth carbonate in contact with the hydrochloric acid of the stomach forms an oxychloride, insoluble in water. Thus the elimination of sodium chloride in the stools is insured. Stimulation of hydrochloric acid secretion

increases the chloride excretion; this may be obtained by giving the bismuth carbonate in milk. No substance is known yet which will form with urea an insoluble compound in the digestive tract.

57: 509-532 (Dec. 19) 1925

Medical Electricity in 1925. E. and H. Biancani.—p. 509.
Gymnastics in Physical Training. P. Carnot.—p. 520.
*Diathermy in Aerophagy. H. Bordier.—p. 524.
*Electrotherapy of Exophthalmic Goiter. Delherm and Laquerrière. —p. 526.
*Ultraviolet Rays in Treatment of Anemia. L. Tixier.—p. 529.

Diathermy in Treatment of Aerophagy.—Bordier advocates the use of diathermy in aerophagy from dyspepsia or nervous disorder. Under this local treatment the stomach evacuates its contents more promptly, owing to the stimulation of the motor function, and the gastric pain disappears. Three cases are reported in which a few exposures were followed by recovery. Electric currents of 3,800 or 4,000 milliamperes were used for thirty or forty minutes, in each exposure. The larger electrode was applied to the dorsolumbar region, the smaller to the epigastrium and left hypochondrium. The exposures were repeated every day or three times a week.

Electrotherapy of Exophthalmic Goiter.—Delherm and Laquerrière associate roentgen rays with galvanofaradic currents in treatment of exophthalmic goiter. The negative disk is put on the thyroid, the positive, back of the neck. A current of from 10 to 20 milliamperes is used in a twenty minute sitting. (Laborderie obtained good results from salicylate iontophoresis at the negative electrode.) Series of three daily exposures are repeated after a certain interval. Under the treatment the general condition markedly improved; the action on the local phenomena was less manifest. In eleven of fifteen patients thus treated, the metabolism was reduced, becoming almost normal; in the others the general condition and metabolism remained unchanged.

Ultraviolet Rays in Treatment of Anemias.—Tixier emphasizes that the ultraviolet rays are without action in pernicious anemia. They are effectual in secondary anemias of medium intensity. The influence is manifest not only on the blood, but also on functional signs. Anemia in children, from rickets, syphilis, malnutrition, hemorrhages or in convalescence, may benefit from the rays. Anemia from tuberculosis does not yield to this treatment.

Presse Médicale, Paris

33: 1617-1632 (Dec. 9) 1925

Cancer of Tonsil and Tongue. P. Jacques.—p. 1617.
Nonfebrile Malarial Paroxysms. P. Schrumpf-Pierron and A. Pagnier. —p. 1618.
*Treatment of Mercury Poisoning. A. Landau et al.—p. 1619.
*Roentgenotherapy of Spinal Tumors. H. Schaeffer.—p. 1620.

Bismuth in Treatment of Mercury Poisoning.—Landau, Marjanko and Fergin consider bismuth treatment as specific in mercury poisoning. It brought about recovery in 80 per cent of twelve cases. They describe a grave case of mercuric chloride poisoning with complete recovery, notwithstanding the anuria which had persisted for seven days. Bismuth subnitrate and bismuth carbonate, 0.75 Gm. of each, were given four or six times a day. The usual methods are used to supplement the bismuth treatment. The diet is limited first to sweetened tea and orange juice; then to food poor in albumin. The treatment is based on the theory that the incoercible vomiting, bloody diarrhea and intolerable pains are secondary phenomena from infected ulcerations in the digestive tract. Bismuth aims to combat the infection lesions; the healing of the kidney lesion may occur spontaneously, even in advanced cases.

Roentgen Ray in Treatment of Spinal Tumors.—Schaeffer believes that surgical intervention is indicated in benign juxtaspinal tumors, while malignant tumors of the spinal cord and meninges require the roentgen rays. In certain cases an operation should be associated with roentgen-ray therapy.

33: 1665-1680 (Dec. 19) 1925

*Insulin in Suprarenal Insufficiency. G. Marañon.—p. 1665.
*Acute Occlusion of the Pylorus. X. Delore et al.—p. 1667.
Epigastric Pains in Diagnosis. R. A. Gutmann.—p. 1669.
Intraspinal Anesthesia in Intestinal Obstruction. Lefebvre.—p. 1671.

Insulin in Suprarenal Insufficiency.—Marañon injected 5 and 10 units of insulin in two women with Addison's disease. A dose of 10 units was also given to a woman with cancer of the stomach, and to another with advanced tuberculosis of the lungs. It was evident that insufficiency of the suprarenals had induced a special susceptibility to insulin. Thus small doses of insulin might induce even fatal by-effects in Addison's disease. The hypersensibility is not connected with the general condition, since it was not apparent in two other cachectic patients with hypotension and hypoglycemia. The cause of the hypersensibility seemed to be a decrease of the epinephrine secretion. Grave lesions of the suprarenals were found in diabetics who had died in coma, notwithstanding the disappearance of hyperglycemia and acidosis under insulin. Observation of a man with a tumor of the pituitary showed that insufficiency of this gland does not induce a hypersensibility to insulin comparable to that from suprarenal insufficiency.

Acute Occlusion of Pylorus in Course of Stenosis.—Delore, Rougemont and Creyssel report seven cases. They recall that the first phase of the disease is characterized by moderate, but repeated and intractable vomiting for about a week. This is followed by the second phase—a grave general condition. There are always anatomic changes of the pylorus with stenosis. The condition may be complicated by spasm, of toxic origin. Gradual intoxication from the stagnating gastric contents seems to create the grave condition. Surgical measures should be preceded by medical treatment consisting in intrarectal injections of glucose solution, and use of heart tonics.

33: 1681-1696 (Dec. 23) 1925

Anomalies of Sacral Vertebra—Spondylolisthesis. Léri.—p. 1681.
Syphilitic Epididymitis of Tertiary Stage. Oudard and Jean.—p. 1684.
*Action of Sparteine on the Heart. R. Delas and L. C. Soula.—p. 1685.

Mechanism of the Action of Sparteine.—Delas and Soula conducted their experiments on toads. It showed that sparteine is a poison, which induces contraction of the myocardium. Thus is explained its tonic action on the heart. Sparteine may be effectual in tachycardia and dilatation of the heart.

Schweizerische medizinische Wochenschrift, Basel

55: 1173-1192 (Dec. 24) 1925

*Significance of Fever. R. Isenschmid.—p. 1173.
*Fever. W. Löffler.—p. 1181.
*Fever and Tuberculosis. M. Jaquerod.—p. 1187.

Significance of Fever.—This issue contains reports made at the meeting of the Swiss Biologic Society at Aarau. Isenschmid presents a short and practically complete survey on recent theoretical work.

Pediatria, Naples

33: 1309-1344 (Dec. 15) 1925

*Leishmaniasis in Children. S. Cannata.—p. 1309.
*Anatoxin Prevention of Diphtheria. Ivo Nasso.—p. 1312.
*Hydrocele in Infants. C. Gallo.—p. 1317.
Frequency of Congenital Syphilis at Naples. A. Bocchini.—p. 1326.
Vaccine Prevention of Measles. L. Ricciardi.—p. 1333.
Measles with Tuberculous Complications. Sindoni and Guccione.—p. 1338.

Leishmaniasis in Children.—Cannata reports further good results of treatment of leishmaniasis in children with sodium and antimony tartrate. It acts well even in patients who had not been benefited by potassium and antimony tartrate. He used a 1 per cent solution of the drug in a 0.75 per cent solution of sodium chloride, sterilized in the autoclave. The initial dose was 2 cc. (intravenously). Increasing doses (by 1 cc. in infants, by 2 cc. in children older than 3 years) were injected two or three times a week. The maximum dose was usually 10 cc. except in children who reacted with cough when 8 cc. was reached.

Anatoxin Prevention of Diphtheria.—Nasso injected anatoxin twice, with an interval of twenty days, in 108 children. Almost 91 per cent of them became Schick negative. All the twelve children injected three times became negative. Contrary to this, fifteen of forty-three tuberculous children remained Schick positive after two injections.

Hydrocele in Infants.—Gallo found evidence of congenital syphilis in thirteen of twenty infants with hydrocele.

Policlinico, Rome

32: 1783-1820 (Dec. 21) 1925

*Auscultatory Percussion in Fractures. E. Vigevani.—p. 1783.
Treatment of Tuberculosis and "Debility." G. Breccia.—p. 1787.
Treatment of Tetanus. G. Famiglietti.—p. 1791.

32: 585-632 (Dec. 15) 1925. Surgical Section

Retroperitoneal Lipomas. G. Antonioli.—p. 585.
Chronic Abscess of Tongue. G. Baggio.—p. 591.
Acute Tuberculosis of the Testis: Two Cases. U. Bani.—p. 594.
Sarcoma of the Bladder. T. Bottari.—p. 601.
Successful Transplantation of the Testis. N. Leotta.—p. 617.

Auscultatory Percussion in Diagnosis of Fractures.—Vigevani's auscultation with a stethoscope is done while drawing a line under slight pressure with a finger toward the point of suspected fracture.

Rivista di Clinica Pediatrica, Florence

23: 793-864 (Dec. 15) 1925

Grave Jaundice in Child. P. Poletti.—p. 793.

Archivos Latino-Amer. de Pediatría, Buenos Aires

19: 1045-1126 (Sept.) 1925

*The American Child Welfare Institute. L. Morquio.—p. 1045.
Annual Report of Infant Welfare Service of National Public Health Department. C. Ferreira.—p. 1063.
*Epidemic Encephalitis in Child. N. Leone Bloise and O. Beisso.—p. 1086.

The American Child Welfare Institute.—This international institution for all America was mentioned in the News Department, recently.

Epidemic Encephalitis in Child of 3.—This is the youngest child known to have epidemic encephalitis in Uruguay. The disease began with symptoms of a "cold" and the child did not sleep at night, but slept late the next day, and somnolency became almost continuous. Fleeting diplopia and myoclonic spasms confirmed the diagnosis. The symptoms subsided in about a month, and eight months later the child seemed physically normal but a previously noted unruly tendency was much exaggerated. The parents were healthy, with eleven living children. The treatment had been merely with purgation, tepid bathing, and hexamine by mouth and subcutaneously. Iodine, calcium and arsenic were given during convalescence. As the case was relatively benign, no attempt was made to give sodium salicylate by the vein, a practice much in vogue now in Uruguay for cases with pains and the motor symptoms and parkinsonian sequelae of epidemic encephalitis.

Boletin de la Soc. de Obstet. y Ginec., Buenos Aires

4: 377-446 (Oct. 20) 1926

*Placenta Praevia. N. Palacios Costa and P. A. Landa.—p. 378.
*Foreign Body in Bladder. A. Chueco.—p. 420.
Dystocia from Sacral Tumor in Fetus. Bello and Jakob.—p. 426.
Rupture of Uterus at Term; Fetus in Its Membranes Intact in Abdominal Cavity; Prompt Recovery After Suture. Pérez.—p. 432.
Massage in Treatment of Retroflexion. S. E. Bermann.—p. 437.

Placenta Praevia at Buenos Aires.—Palacios Costa and Landa devote thirty-five pages to tabulation under fifty-eight headings of the details of 203 cases of placenta praevia at the women's clinic, 1914 to 1923. These cases formed 1.04 per cent of the total 19,450 pregnant women. Two died of the twenty-one praevia primiparas, and of the eighty-six multiparas, a mortality of 5.4 per cent, omitting the moribund cases. The high death rate of the viable children, 47 per cent, emphasizes the necessity for sending praevia cases to the hospital in time for cesarean section to save the child.

Hairpin in Bladder.—The woman had once extracted with a hairpin a small calculus impacted in the urethra. In a recurring attack of retention, she attempted to repeat the procedure, but the hairpin escaped into the bladder and it became incrusted to form a calculus as large as a hen's egg. It was removed by suprapubic section, which allowed extraction of the part of the hairpin embedded in the bladder wall. This could not have been reached so well by a vaginal operation, and the urine would not have allowed such rapid healing of a low operative wound. Chueco usually prefers a vaginal operation.

Lisboa Médica, Lisbon

2: 405-452 (Sept.) 1925

Radium Treatment in Uterine Cancer. Gentil and B. Guedes.—p. 405.
*Idiopathic Dilatation of the Esophagus. Cascão de Anciães.—p. 415.

Idiopathic Dilatation of the Esophagus.—Cascão de Anciães encountered in less than a year four cases of this kind. In one a sarcoma had developed secondarily Great benefit was realized in one case by dilating exercises with two bougies at a time. The woman was taught to continue these herself, and there is no dysphagia or other symptom now.

Revista Médica Latino-Americana, Buenos Aires

10: 1301-1422 (Sept.) 1925

*Sclerosis of the Pulmonary Artery. F. C. Arrillaga.—p. 1301.
*Artificial Pneumothorax in Pregnancy and Childbirth. A. A. Raimondi and T. González.—p. 1308.
*Torsion Spasm in the Young. A. S. Marotta.—p. 1315.
Anatomy of the Thoracic Duct. J. A. Caeiro.—p. 1367.
*Acetonuria After Operations. C. Cardini and F. Martinez.—p. 1381.

"Black Cardiacs."—Arrillaga gives colored plates and roentgenograms, taken in different positions, besides illustrations of the necropsy findings. In one of the two cases of Ayerza's disease described, there had been no edema, although the polycythemia reached 9,400,000 and the hemoglobin 168 per cent. The right ventricle was enormously dilated, as was also the first part of the pulmonary artery. Signs of mild insufficiency of the heart with even a slight tendency to cyanosis should suggest some lesion in the pulmonary artery, and tentative treatment for syphilis should be started at once. Five cases were in the hospital at one time, recently.

Artificial Pneumothorax in Pregnant Tuberculous Women.—The seven cases reported confirm that conservative measures, promptly applied, may carry the woman safely through a pregnancy, without aggravating the tuberculosis. With unilateral disease, an artificial pneumothorax is advised during the pregnancy, and it is imperative immediately after delivery. Otherwise, the lesions are speeded up by the sudden relaxation of the diaphragm when the pressure from the enlarged uterus is removed. Raimondi and González applied therapeutic pneumothorax in two of the seven cases early in pregnancy; in the others, immediately after delivery.

Deforming Muscular Dystonia.—Marotta has had a case of progressive torsion spasm under observation for five years, and gives fourteen illustrations of the phases of the dystonia. Certain features suggest a new type, which he calls the "spasmodic contorsive" variety. The boy had developed normally to the age of 12, when tremor and jerking movements were noted. The literature on dystonia musculorum deformans in the young is reviewed.

Acetonuria Before and After Operations.—Among the causes, liver lesions take a prominent place. In a woman, aged 35, the signs and symptoms of insufficiency of the liver appeared with a grave syndrome of acidosis. The whole followed close on the development of an acute adnexitis. The fever from the latter subsided the fifth day, although the local tenderness persisted. Two days later the liver symptoms appeared, with acetonuria, somnolency and swelling of the liver, but the sugar content of the blood was normal. No benefit was realized in three days of the usual measures, but immediate improvement followed injection of 5 units of insulin twice a day. This case suggests the wisdom of tentative insulin treatment in all cases of acetonuria.

Revista de la Soc. Arg. de Urol., Buenos Aires

1: 111-138 (Sept.) 1925

*Local Anesthesia for Lithotrity. A. Astraldi and J. A. Quintana.—p. 111.
Diagnosis of Polycystic Kidney. J. Salleras.—p. 114.
*Prostatic Double Adenoma. Ortiz and Gazzolo.—p. 119.
*Degeneration of Kidney with Calculi. R. Spurr.—p. 123.
*Undescended Testis on Opposite Side. R. Spurr.—p. 133.

Local Anesthesia for Lithotrity.—Astraldi and Quintana have had no mortality in their twelve cases in which the vesical calculus was crushed painlessly in the bladder after injection of 50 cc. of a 0.5 per cent solution of procaine, two hours before the operation. The bladder was emptied just before this, the one catheter serving for both. Every half hour the bladder is evacuated anew, and 50 cc. more of the anesthetic solution is injected, to a total of 200 cc. in the

course of the two hours. Just before the operation, morphine is injected and the urethra anesthetized with a 1 per cent solution of procaine. Pavone has applied local anesthesia for thirty years and in 3,024 lithotrity cases, with a mortality of 1.55 per cent.

Double Adenoma of the Prostate.—Ortiz and Gazzolo warn of the necessity for examining whether there may not be a second recess containing part of the prostate. The bed of the prostate in a case described was partitioned off into two parts, each containing an adenoma. This was not discovered at the prostatectomy—the second adenoma having been overlooked—and the man survived only a few days.

Total Sclerolipomatous Degeneration of the Kidney.—The nephrectomy was done on the diagnosis of cancer, although the absence of hematuria had been puzzling. The entire kidney had been transformed into fat and was easily removed. Maracni has had a similar case, but the patient soon died from myocardiac insufficiency.

Displacement of Testes.—A left inguinoscrotal hernia was evidently partially responsible for pulling the right testis over on the left side. The left testis had been pushed over into the normal place of the right testis, so that the absence of one testis had not been suspected.

Deutsche medizinische Wochenschrift, Berlin

51: 2101-2142 (Dec. 18) 1925

*The Pupils in Encephalitis. A. Westphal.—p. 2101.
Hypertension. P. Fleischmann.—p. 2104. C'cn.
Stomach Movements After Oral Stimuli. F. Walinski.—p. 2106.
Iodine Idiosyncrasy of the Skin. A. Buschke and H. Ollendorf.—p. 2109.
*Differential Blood Counts. S. Moschkowski.—p. 2110.
Acute Endocarditis and Chronic Diseases. A. Sonnenfeld and A. Mendershausen.—p. 2113.
*Chronic Diphtheria of Nose. A. Abraham.—p. 2114.
Tuberculosis and Sleeping Sickness in Africa. Steudel.—p. 2116.
*"Allergy After Vaccination plus Tuberculin." Moro and Keller.—p. 2118.
*Blood Sugar in Pernicious Anemia. Blumenthal and Neuburger.—p. 2119.
*Immunity to Sperma. L. Bodnár and H. Kamniker.—p. 2119.
Reduction Titer of Urine. W. O. Moor.—p. 2120.
Organic or Inorganic Iron? R. Seyderhelm.—p. 2120.
Pseudotumor of the Humerus. Sonntag.—p. 2123.
Vasoligation in Treatment of Hypertrophy of the Prostate. J. J. Stutziu. —p. 2124.
Stoppers for Injection Fluids. W. Korb.—p. 2125.
Occupational Hygiene. W. Rosenthal.—p. 2126.
The Campaign Against Tuberculosis. E. Alstaedt.—p. 2127.
Structure of Bacteria. A. Moeller.—p. 2139.

The Pupils in Encephalitis.—Westphal described eighteen years ago a transitory rigidity of the pupils in catatonic patients. He has observed the same symptom recently in epidemic encephalitis. It is closely associated with changes of tonus in striated muscles. For instance, it could be observed only during a spasm of the orbicular muscles of the eye, with attacks of yawning, or with spasm of the internal rectus muscles of the eyes.

Differential Blood Counts.—Moschkowski pays more attention to the absolute counts of the various blood cells per cubic millimeter than to their simple percental differences.

Chronic Diphtheria of Nose.—Abraham observed thirteen cases of chronic diphtheria of the nose presenting all the symptoms of ozena. The patients recovered after large doses of antitoxin and an autovaccine had been administered.

"Allergy After Vaccination plus Tuberculin."—Moro and Keller emphasize with regard to Fernbach's paper (summarized in these columns, Jan. 16, 1926, on page 236), that they had pointed out in their paper the necessity for a control with simple glycerol bouillon. Their results were identical with those of Fernbach.

Blood Sugar in Pernicious Anemia.—Blumenthal and Neuburger found neither regular changes of blood sugar in pernicious anemia nor any connection between the severity of the disease and the level of the blood sugar.

Immunity to Sperma.—Bodnár and Kamniker mixed human sperma with the serum of more than 100 women. There were no definite results. The spermatozoa survived from two to thirteen hours. Only in the serum from three virgins the spermatozoa survived longer than in any one of the controls. They do not draw any definite conclusions from this small number.

Klinische Wochenschrift, Berlin

4: 2425-2480 (Dec. 17) 1925

*Surgery of Angina Pectoris. Goldscheider.—p. 2425.
Sanocrysin Treatment. K. Faber.—p. 2429.
*Significance of Carotin. F. Goebel and A. Stern.—p. 2434.
Hyperacidity and Duodenal Ulcer. K. Tiefensee.—p. 2435.
Microsedimentation Test. O. Gragert.—p. 2436.
Tetanus After Criminal Abortion. G. H. Schneider.—p. 2438.
*Registering Apparatus for Gas Metabolism. H. Dethloff.—p. 2440.
Comment. Leschke.—p. 2441.
Respiration in Pulmonary Tuberculosis. N. Róth.—p. 2442.
Atoxic Thallium Compounds. A. Buschke and B. Peiser.—p. 2444.
*Spleen and Methemoglobin. E. Frey.—p. 2445.
*Aqueous Solution of Ovarian Hormone. B. Zondek and B. Brahn.—p. 2445.
*Action of Insulin and Electrolytes. J. Abelin and E. Goldener.—p. 2446.
Necrotic Diphtheria of the Skin. C. Meyer.—p. 2447.
Hypnotics. G. L. Dreyfus.—p. 2448.
*Cleavage of Carbohydrates. A. Gottschalk.—p. 2454.
The "Normal" in Medicine. M. Hauptmann.—p. 2457.
Radium and the Blood Pressure. E. Müller.—p. 2477.

Surgery of Angina Pectoris.—Goldscheider would restrict surgical intervention in angina pectoris to the most desperate cases. He mentions intravenous injections of a theobromin derivative as a measure to be tried before deciding on operative measures. He reports two cases—one with section of fibers of the vagus, and another with sympathectomy. The pains disappeared in the first case permanently, in the other temporarily, but fatal insufficiency of the heart developed shortly after the operation in both.

Significance of Carotin.—Goebel and Stern found no changes of the respiration of blood or tissues in the presence of carotin. It is known that the absence of carotin from the yolk does not inhibit the development of the chicken.

Registering Apparatus for Gas Metabolism Findings.—Dethloff has succeeded in devising an apparatus which registers continually both the oxygen intake and carbon dioxide elimination.

Spleen and Methemoglobin.—Frey found with a simple graphic method a reduction in the size of the spleen when methemoglobinemia is induced by nitrobenzol or other poisons —just as Barcroft observed in carbon monoxide poisoning. Epinephrine and choline cause the same phenomenon; atropine the opposite.

Aqueous Solution of Ovarian Hormone.—Zondek and Brahn describe their method for obtaining water soluble extracts from the placenta or follicular fluid of the ovary. The substance induces estrus in castrated mice. They conclude that the ovarian hormone is only dissolved in lipoids, and that it can be separated from lipoids by their method.

Action of Insulin and Electrolytes.—Abelin and Goldener enhanced the action of insulin in rabbits by simultaneous administration of 2 Gm. of monosodium phosphate. Disodium phosphate inhibits its action. Other salts also influence the reaction of the rabbit: for instance, a mixture of sodium chloride, bicarbonate and sulphate is a synergist of insulin.

Cleavage of Carbohydrates.—Gottschalk reviews the newest data on the initial stages of biochemical cleavage of carbohydrates. A labile form of glucose and formation of methylglyoxal are most probable.

Medizinische Klinik, Berlin

21: 1909-1948 (Dec. 18) 1925

*Blood and Iron Metabolism. L. Asher.—p. 1909.
Cancer Research. G. Domagk.—p. 1911. C'td.
Symposium on Syphilis. Galewsky and others.—p. 1914. C'tn.
Congenital Syphilis in Twins. Cassel.—p. 1916. C'td.
Emphysema and Pneumothorax in Kyphoscoliosis. T. Vaternahm.—p. 1919.
*Rupture of Aorta. K. Paschkis.—p. 1921.
Fissure of the Anus. L. Fischl.—p. 1922. C'cn.
*The Blood After Burns. K. Schreiner and O. Pucsko.—p. 1925. C'cn.
Serum Sickness. Freitag.—p. 1928.
Arsphenamine Treatment. M. Baer.—p. 1928.
*Calcium Regulation in Pregnancy. Hetényi and Liebmann.—p. 1929.
Leukemia in Relation to Trauma. Von Schnizer.—p. 1934.
Roentgen Reduction of Enlarged Glands. H. Holfelder.—p. 1936.
Tuberculosis of Male Urogenital Organs. H. Wildbolz. Supplement. —pp. 1-48.

Blood and Iron Metabolism.—Asher points out that splenectomy is followed by increased elimination of iron, which in dogs is normally about 16 mg. per day (15 mg. of it by the feces). Therefore administration of iron or food containing it is necessary to avoid anemia after splenectomy,

although the spleen inhibits the hemopoiesis. Loewy discovered in the blood of animals, subjected to low air pressure, substances which stimulate regeneration of the blood (hemopoctins). Such serums are without any effect in rabbits after extirpation of the thyroid and thymus. In a similar way, injections of sodium nucleinate do not induce leukocytosis in such animals. If splenectomy is added, the reaction reappears, but the animals die—probably because they are unable to stand the losses of blood required in conducting the research, when three of the regulating organs are removed.

Rupture of Apparently Healthy Aorta.—Paschkis reports a case of spontaneous rupture of the aorta in a man aged 46. There was neither syphilis nor atherosclerosis to account for the condition.

The Blood After Burns.—Schreiner and Pucsko confirm the polycythemia with a low color index and leukocytosis after burns.

Calcium Regulation in Pregnancy.—Hetényi and Liebmann observed a lower calcium content in the serum toward the end of pregnancy. The blood from the umbilical vein contains more calcium than the blood from the artery.

21: 1949-1966 (Dec. 24) 1925

*Diseases of the Gallbladder. W. Schöndube and H. Kalk.—p. 1949.
*Cancer Research. G. Domagk.—p. 1953. C'cn.
Symposium on Cancer of the Rectum. Mandl and Schnitzler.—p. 1955.
*Congenital Syphilis in Twins. Cassel.—p. 1957. C'cn.
Induced Hyperemia of the Shoulder. R. Kurzmann.—p. 1958.
*Treatment of Undernourished Tissues. S. Lieben.—p. 1958.
Modification of Venesection. S. Rechnitzer.—p. 1959.
*Blood Groups in Cancer. G. Weitzner.—p. 1960.
Survey on Ophthalmology. Adam.—p. 1962.

Diseases of the Gallbladder.—Schöndube and Kalk diagnose occlusion of the cystic duct if there is little or no change in the bile (aspirated by the duodenal tube) after an injection of pituitary extract. The method checks up on cholecystography. With a patent duct, cholelithiasis may prolong the latency period (for instance, fifty-five minutes instead of twenty), or shorten the time of elimination of dark bile (five minutes instead of fifteen or more). It may also happen that the bile is darker colored than usual, even before the injection, and does not change much afterward. This indicates occlusion of the cystic duct, as it occurs frequently also after cholecystectomy.

Cancer Research.—Domagk reviews the more or less recent research on cancer. He subjected mice to a weak roentgen irradiation before tarring. Almost all these animals reacted to the tarring with cancers, which he induced only in 4-5 per cent of the nonirradiated animals. Intravenous injections of an emulsion of mouse tar cancer caused in rats sarcomas of the liver or lungs.

Congenital Syphilis in Twins.—Cassel observed congenital syphilis in ten pairs of twins. The first symptoms showed in the twins, who were of the same sex, once at the same time; three times at different periods, and once in a manner which could not be definitely classified. The syphilis started at the same time in three out of five pairs of different sex. He believes that a transmission of different amounts of spirochetes by the syphilitic placenta would account best for these observations.

Treatment of Undernourished Tissues.—Lieben obtained a good result in a patient whose extremity was amputated for diabetic gangrene with little tendency for healing: he played a jet of warm oxygen on the wound. Similar results were obtained in torpid ulcers on the legs. The temperature must not be too high. The method gave excellent results in experimental pneumococcus keratitis in rabbits—the other eye serving as control.

Blood Groups in Cancer.—Weitzner determined the blood group in eighty-four patients with carcinomas and in over 1,000 controls. The group percentage in cancer cases was: group I (Jansky) 16.6 per cent; group II 42.9 per cent; group III 14.3 per cent; group IV (AB) 26.2 per cent. His controls were: 35.7 per cent; 43.3 per cent; 15.7 per cent; and 5.3 per cent respectively. He points to the distinctly smaller occurrence of the agglutinogens in cancer. Group IV seems to indicate a predisposition; group I a resistance to cancer.

Münchener medizinische Wochenschrift, Munich

72: 2177-2222 (Dec. 18) 1925

*Salt and Hyperacidity. W. Weitz and W. Kissling.—p. 2177.
*Amino-Acids of Blood. E. Becher and E. Herrmann.—p. 2178.
Homeopathy. W. Richter.—p. 2181.
*The Capillaries in Twins. R. Mayer-List and G. Hübener.—p. 2185.
*Chemical Differentiation of Races. E. O. Manoiloff.—p. 2186.
*Chloroform Inhalation with Failing Fetal Heart. L. Willkomm.—p. 2188.
Training in Public Speaking as Form of Psychotherapy. F. Keller-Reymond.—p. 2190.
A Desk Prop for the Chest. Schede.—p. 2192.
"Urobilin and Liver Cirrhosis." A. Adler.—p. 2192.
*Tuberculous Hip Joint Disease in Children. Magg.—p. 2192.
*Heart Muscle After Carbon Monoxide. Gürich.—p. 2194.
The Spirochetes in Malaria Treated Paresis. E. Forster.—p. 2197.
Fracture of External Malleolus. M. Geldmacher.—p. 2200.

Salt and Hyperacidity.—Weitz and Kissling found that administration of sodium chloride in water or with solid meals causes a lower acidity than the same substances given without salt. Thus, the restriction of salt in treatment of hyperacidity seems to be irrational.

Amino-Acids of Blood.—Becher and Herrmann found with Folin's method 6-6.7 mg. of amino-acid nitrogen per hundred cubic centimeters of blood. The amount is markedly increased in leukemia (over three fold), in certain acute infectious diseases, liver disease, in certain cases of nephritis, and shortly before death. They discuss the differences in regard to free and bound acids—the latter increasing especially in nephritis. They emphasize the parallelism with uric acid.

Microscopy of the Capillaries in Twins.—Mayer-List and Hübener made observations on the capillaries of twenty-seven probably univitelline pairs of twins, and twenty-three bivitelline. The correct diagnosis as to the single or double chorion could be made from this examination alone in twenty-two of the first group of pairs and in twenty of the second.

Chemical Differentiation of Races.—Manoiloff adds to 3 cc. of a 3-5 per cent emulsion of blood cells (obtained from the clot) one drop of a 1 per cent alcoholic solution of methylene blue. After stirring, he adds 5 drops of a 1 per cent alcoholic solution of cresyl violet and stirs again. He adds 3 drops of a 0.5—1 per cent solution of silver nitrate and, after stirring, 1 drop of a 40 per cent solution of hydrochloric acid. After stirring well, he adds 3-5 or more drops of a freshly prepared aqueous 1 per cent solution of potassium permanganate. The amount of the latter depends on the quality of the dyes. He finds that the cresyl violet disappears in the blood taken from Jews, which becomes blue, while the fluid stays bluish red with blood from Russians. He had 187 correct results in 202 tests. He found differences even between the blood of Russians and Ukrainians. The children from mixed marriages (father Russian, mother Jewish, Polish or Armenian) gave a faster reaction than pure Russians. No difference from the Russian was noted in children from intermarriage between Russians and the German or yellow race. Kogan observed with this method that injection of epinephrine induces temporarily the "Russian" reaction in Jewish children. He explains the differences by greater speed of oxidation in Jewish blood as compared with the Russian.

Chloroform Inhalation with Failing Fetal Heart.—Willkomm confirms the good influence of chloroform inhalation on the beginning asphyxia of the fetus. When the fetal heart rate keeps below 100 during two successive intervals between the labor pains, he administers 6-8 drops of chloroform per minute. Its action consists probably in the improvement of the fetal circulation due to a decreased tonus of the uterus or abdominal muscles.

Tuberculous Hip Joint Disease in Children.—Magg emphasizes that limping, with apparently normal intervals, pain in the knee without local findings and pain in dorsal hyperextension of the thigh are most important. All the symptoms may be absent in the free intervals. It is necessary to advise the parents to bring the child again if the limping reappears.

Heart Muscle After Carbon Monoxide.—Gürich examined four cases of fatal poisoning with illuminating gas. The typical heart changes are hemorrhagic necrotic foci with leukocytic infiltrations surrounding them. The septum and especially the papillary muscles of the left ventricle presented the gravest changes. The media of certain arteries of the brain was necrotic and infiltrated with lime.

Wiener klinische Wochenschrift, Vienna

38: 1373-1396 (Dec. 24) 1925

Sanocrysin Treatment. C. H. Würtzen.—p. 1373.
*Standardization of Pituitary Preparations. K. Tauber.—p. 1377.
"Ptosis" and "Atony" of the Stomach. E. Schütz.—p. 1378.
Cervical Placenta Dissecans. H. Heidler.—p. 1382.
Peptone Treatment. A. Kirch.—p. 1383.
Compulsory Rat Extermination in Austria. M. Kaiser.—p. 1384.
Birth Trauma of the Skull in the New-Born. H. Heidler. Supplement. —pp. 1-24.

Standardization of Pituitary Preparations.—Tauber suggests to utilize the inhibition of diuresis or the action on the gallbladder for standardization of extracts from the posterior lobe of the pituitary. It is essential to measure the urine every hour, since the initial inhibition is followed after three hours by an increased diuresis.

Časopis lékařů českých, Prague

64: 1789-1824 (Dec. 12) 1925

*Treatment of Cancer of the Breast. F. Tománek.—p. 1789.
Blackmail and Rape. J. Stuchlík.—p. 1793.
The Erythrocytes in Urodel Amphibians. O. Jirovec.—p. 1801.
Lymphangioma of the Skin. B. Rejsek.—p. 1802.
The Tarnier, Kielland and Demelin Forceps. J. Saidl.—p. 1808. C'cn.
*Funnel Shaped Chest. J. Zahradníček.—p. 1814.

Treatment of Cancer of the Breast.—Tománek never irradiates operable cancers of the breast. He uses radium only for prevention of recurrences after radical operations. He pleads for the French method, repeating the irradiation for several days in order to reach the mitoses. Only one out of ten patients thus treated had a recurrence within two years.

Funnel Shaped Chest.—Zahradníček's patient was a boy 16 years old with a high degree of funnel shaped chest. The sagittal diameter at the point of the depression was about 10 cm. The patient was dyspneic and had palpitations. The operation consisted in perforation of the sternum and introduction of two wires which were used for traction. The result was quite satisfactory.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

2: 2379-2482 (Nov. 28) 1925

*Acrocephalosyndactylism. J. de Bruin.—p. 2380.
Endotheliomas. O. H. Dijkstra.—p. 2393.
Structure and Significance of Connective Tissue. VIII. G. C. Heringa and H. A. Lohr.—p. 2399.
*Medical Officials of Railroads, etc. P. M. v. W. Palthe.—p. 2407.
The Nomenclature of Vitamins. E. C. van Leersum.—p. 2418.

Congenital Abnormally Large Skull and Fusion of Fingers and Toes.—De Bruin gives an illustrated description of two personal cases of the set of malformations in head, hands and feet to which Apert called attention in 1906, labeling it acrocephalosyndactylia. There are about thirty-three cases on record, none with familial or hereditary features. The prognosis as to life seems to be favorable but vision is threatened, as in steeple skull. On account of the huge rounded protruding skull above the level of the eyes, the exophthalmos and the deformed hands, the education of these children is generally neglected, but otherwise they seem mentally normal; only two were idiots.

The Work of Railroad Physicians.—This is an address delivered at the semicentennial of the Netherlands Society of Railroad Medical Officials. Palthe emphasizes the importance of the combination of headache, somnolency and partial or total unconsciousness, as something which requires at once expert institutional observation and tests. He describes some typical cases showing the danger of wasting time before discovery of the cause. Detection of malingering is often possible only with expert study of conditions. Factitious seizures in one case were not interpreted correctly for two years, the man receiving workman's compensation, and loafing. In his repeated falls he never injured himself, and there was no tongue biting or incontinence. Palthe insists on the beneficial effect of treating the results of an emotional shock as a trifle, and getting the victim to resume, more or less completely, his ordinary occupation at once. This reduces the tendency to traumatic neuroses: When a rider falls off in the riding school, a good riding master gets him back on the horse and riding again at once, without asking any suggestion-breeding questions as to how much he is hurt, etc. The layman often knows the advantage of this even better than physicians. To order rest after a nervous shock is often almost the worst thing that can be done. Unfortunately it is indispensable with grave physical injuries, but the neurotic element should be investigated by experimental psychologic measures as promptly as possible. He reiterates that such an investigation runs no risk of rousing or aggravating neurotic phenomena, as some seem to fear. Even when there is organic injury, he advises to have the patient keep at work unless it directly aggravates the injury or is dangerous for others. To condemn a man to idleness is to anchor and perpetuate any neurotic tendency. He urges consultation and cooperation between medical officials in such cases to provide the patient with partial occupation if he is unable to resume entirely his former task. Productive work —not merely keeping busy—is such a sovereign remedy against disability that no pains should be spared to realize it. The neurosis once developed, nothing can be accomplished with the patient idle at home, and very little in the hospital. An institution where the neurotic, the partially disabled, could do good productive work would save a treasure of work accomplished and enjoyment of life now absolutely wasted. In conclusion he remarks that a traumatic neurosis requires a predisposition as well as a trauma, and that it should be the task of the medical official to detect this predisposition beforehand, and keep the man out of positions liable to entail trauma. It is high time, he adds, that the officials of all big business should be guided by the psychic as well as the physical capacity of the employee in assigning him to a position.

Acta Medica Scandinavica, Stockholm

63: 1-194, 1925

Standardization of Hemoglobinometers. H. C. Gram.—p. 1.
Tumor of Gasserian Ganglion. E. Gjertz and S. Hellerström.—p. 7.
The Pallidal Syndrome. F. Leiri.—p. 24.
*Benign Glycosuria and Diabetes. J. E. Holst.—p. 47.
*Circulation in Exophthalmic Goiter. G. Liljestrand and N. Stenström.—p. 99.
*Hemoglobin and the Circulation. Idem.—p. 130.
*The Circulation in Hypertension and Pregnancy. Idem.—p. 142.
Porphyrinuria. E. Melkersson.—p. 153.
Roentgen Study of the Bronchi. Möller and R. von Magnus.—p. 174.
Postural Reflexes. F. Leiri.—p. 184.

Benign Glycosuria and Diabetes.—Holst investigated 150 persons rejected for life insurance from five to sixteen years previously, on account of glycosuria. Only about 30 per cent of them had diabetes mellitus. The alimentary glycosuria tests do not furnish any differentiating signs between harmless glycosuria and diabetes. Determination of the fasting blood sugar is sufficient for diagnosis and prognosis.

The Circulation in Exophthalmic Goiter.—Liljestrand and Stenström estimate the blood output from the heart in eleven exophthalmic goiter patients at 80 (in the female) to 100 per cent (in the male) above normal: This entails a considerable increase in the work of the heart, since the systolic pressure is usually somewhat increased. The diastolic pressure is slightly below normal.

Hemoglobin and the Circulation.—The basal metabolism was found by Liljestrand and Stenström slightly above normal in four anemic patients (the maximum being + 19 per cent in a case of pernicious anemia). There was a decrease of 15 per cent in a man with polycythemia. The percentage of oxygen utilized during rest is higher in the blood which has a lower oxygen capacity. Therefore the anemic patient can get along during rest with only a moderate increase in the blood output from the heart. The output was distinctly below normal in the patient with polycythemia.

The Circulation in Hypertension and Pregnancy.—Liljestrand and Stenström found increased basal metabolism (average 17 per cent) in five patients with hypertension and chronic nephritis. The utilization of oxygen from the blood was below normal. The blood output from the heart was increased (average 26 per cent). One of these patients was under observation during and after pregnancy. The metabolism fell after delivery from + 22 per cent to + 12 per cent and the minute volume of the heart was reduced from 6 to 4.9 liters.